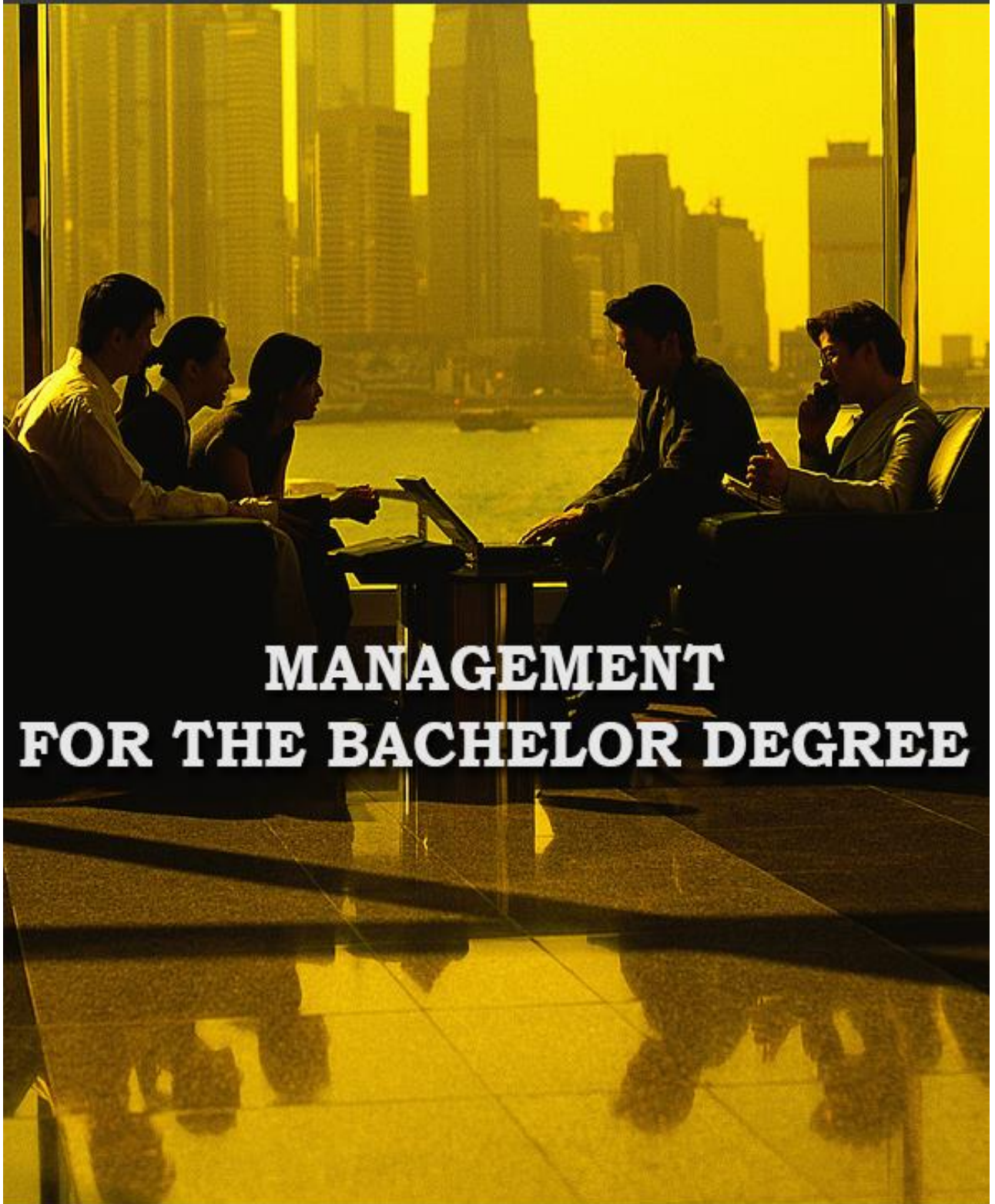


**SUMY STATE UNIVERSITY
DEPARTMENT OF MANAGEMENT**



**MANAGEMENT
FOR THE BACHELOR DEGREE**

SUMY 2015

MANAGEMENT FOR THE BACHELOR DEGREE

Textbook

Under the editorship of O.F. Balatskyi and O.M. Telizhenko

Approved by the Ministry of Education and Science of Ukraine as textbook for the students of
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The textbook contains educational module, which embraces the content of main regulatory disciplines on specialists training by the direction 6.030601 “Management” in the knowledge branch 03.06 “Management and administration” of the educational and qualification level “Bachelor”. According to the content the disciplines completely conform to curricula approved by scientific and methodological commission on management and agreed with logical and structural scheme of educational process.

The textbook embraces almost all aspects of bachelor training. The chapters contain questions for self-control and list of recommended literature. While creating the chapters the results of fundamental and applied scientific researches of the evaluation branch, the forecasting and management of economic potential of complicated industrial system were used.

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INTRODUCTION

In the centre of all the modern conceptions there is a person whose behavior influences the success of the whole company. We live in the epoch of change of social type of person: an economic type of person changes to corporate one. The last one opposed to economic person that was oriented only on own success, creates a space to live and develop in (first of all for itself).

Management relations are social by their nature as they appear between people in the process of production activity. That is why management as a science belongs to the class of economic and organizational sciences.

Subject of the management science is the social relations that appear between people in the process of production activity, exchange and consumption of material goods (services) regarding the agreement and coordination of common actions for achieving the defined aims, i.e. the management relations. The management relations originate from the industrial economic relations; they are a superstructure on economic basis. The management relations nature, their formation and development processes are determined by the nature of the industrial relations and forms of ownership of the means of production.

A general method of management as a science is dialectical that enables to solve the problems of improvement of forms and methods of production management under conditions of unstable economic situations, requires studying separate aspects, elements and connections of management system. It is realized by means of the methods of observation, modeling, analysis, synthesis, generalization, induction, deduction etc.

Special methods of cognition are divided into two groups:

- 1) methods of collection and primary data (information) processing;
- 2) methods of study, evaluation and summation of the received information from the point of view of the management relations (decision making, characteristics of personnel management, summation of background experience, labor motivation etc).

The most widely used methods of scientific researches in management include: shift from studying the concrete facts and figures to generalization and revealing the most essential cause-and-effect relations within the very system of management, as well as between this system and social and economic processes under its influence; evaluation of these relations form; classification of factors that stimulate or, vice versa, slow down the influence on their development that correspondently influence final results.

Recently mathematical methods of balance, optimization and other calculations, as well as economic and mathematical modeling have become rather widespread. They enable to reflect the key qualitative and quantitative characteristics of behavior (development) of management subject and object properly in comparatively simple and suitable for analysis form. The use of mathematical methods and models greatly influences the effectiveness and efficiency of manager's work, increases the accuracy and safety of management decisions making. Widely used economic experiments give the opportunity to check in practice and improve the theoretical developments and hypotheses on new methods and forms of management before providing the whole economic system with them.

While arrangement of textbook the modern concepts of management, changes in social and economic relations, which took place in the result of world division of labour, technological modernization of production, formation of financial and production groups were taken into consideration. Including such disciplines as "Human Resources Management", "Controlling",

“Operations management”, “Information Systems in Management”, “Organization of Manager’s Work” to the textbook was aimed on concretization of appropriate management functions, which are studied systematically within the discipline “Basics of Management”. However the main attention while arrangement was aimed on the summing up of world experience of implementation the appropriate program providing and systematization of information into the educational process. All this gives students the opportunity to receive appropriate knowledge and skills of management decisions making with taking into account the cause-and-effect relations in the system of management.

The disciplines “Regional Management”, “Basics of Foreign Economic Activity” and “Corporate Management” give students the opportunity to formulate general ideas on foreign economic environment of production system functioning. The discipline “Investment” is considered as providing one, the study of which allows students to define not only economic efficiency of investment projects, but also to make appropriate management decisions concerning optimization of their financing sources.

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CHAPTER 1. HISTORY OF MANAGEMENT

Objective: the formation of system knowledge concerning the conceptual bases of the modern enterprise managing by way of the understanding the historical changes of the management as a science.

Subject: historical development of the main notions, regularities and categories of management.

Content modules: The short history of the economic studies. Problems of the antique management. The period of the market relations. Evolution of the notions “management” and “administration”. Management revolutions. The historical personalities who formulated the management conceptual apparatus and developed the conceptions. The Machiavelli’s concept of leadership. The schools of management: classical, school of “people’s interrelations”, E. Mayo’s motivation and managing theory. Experiments in Khotorn. The researches of F. Herzberg and D. McGregor. The contemporary problems of the business owners’ motivation. The formation of the strategic management. Conceptions of modern management: the managing of quality, integral systems of managing.

1.1. The main stages of the management development

The term “management” is widely used in the international publications of managing theory. This notion became well-known as a result of the American culture expansion. The science literature at management of our country has used “management” as the synonym to the capitalistic running (administration) over 30 years. However “administration” doesn’t substitute “management”, because the last provides only one form of the administration, namely the managing of the social and economic processes by way of and within enterprising corporation or incorporated (stock) company.

In Ancient Rome the notion *mancipium* meant the right of possession and the property that was in the possession. There was Latin word *mancepts* - contractor, entrepreneur (a person, who created his capital by his own work, not only by an ardour, but by cunning and smartness).

The English word *to manage* meant the skill to use something. In this context a gentleman had to ride a horse skillfully and wield a spear, sword and shield. Thus, the notion “manager” initially was used in the context of ability to ride a horse. The skill to ride a horse is to make it do some movements which it does being free. That’s why the specific of management is to have enough skills to control people’s actions by such a way, that they don’t notice it. The main thing in the art of managing is to motivate people and to arouse their interest of their own free will.

Among numerous events and phenomena that occurred during the whole history of management one can single out the main ones, which are 5 basic periods of management development. Each period characterizes the transfer (change) of one qualitative state of management into another.

The first stage belongs to 5000-4000 B.C., when the slaveholding states were formulated in the Ancient East. Historians pointed out that the first transformation – transformation of priest caste into the religious functionaries had taken place in Sumer and Egypt. It became possible due to the fact that they had reformulated religious principles. If earlier Gods demanded humans’ sacrifices, henceforth there was no need to do it. Gods received not the human but symbolic sacrifice. That is, believers could sacrifice by way of money, cattle, oil, handicraft things and so on. The tribute in the form of sacrifice was collected, exchanged and put into circulation. Soon crafty Sumer priests were the richest and the most influential class. Besides the realization of ritual honors, the priest headed tax collection, property business, managed the treasury, planned the state budget. They diligently conducted business documentation and accounts, fulfilled the function of supplier, as well as controlling and planning function, which formed the management process.

Thus, the first stage, described as religious and commercial shows, that management was formulated as the religious and commercial activity instrument and turned into the social institute and professional work (business).

The second stage in establishing of the management took place approximately in thousand years after the first one and is connected with the name of the Babylonian ruler Hammurabi (1792-1750 B.C.). He was the prominent politician, military leader; he conquered the neighbor Mesopotamia and Assyria. To manage the big property one needed an effective administrative system, which would allow running the country successfully in the strength not of his will or tribal law, but on the basis of the same written laws. The superlative Hammurabi Code, which consists of 285 laws concerning the managing of different spheres, is the prominent sight of the ancient law and another period in management history. The value of Hammurabi's Code, which regulated all relations in the society, is that it was the first formal management system.

Thus, the second stage is the period when the society manner of management, the formal system of people's relations regulating system appeared, when the leader style as well as the methods of behavior motivation came into existence. This stage was called society-administrative.

The third stage took place in thousand years after Hammurabi's death and was connected with the name of the ruler Nebuchadnezzar II (605-562 B.C.), who was not only the project author of the Babylonian Tower and Hanging Gardens, but also the author of the production control system on the textile factories, where he set up to use colored labels. Those labels marked the thread, which came to the factory every week. Such a controlling method helped to determine how long the feedstock lot was staying at the factory.

Thus, Nebuchadnezzar's II achievements are building activity and the development of the technically difficult projects, the effective controlling methods of the products quality – characterize the third stage, which is called the stage of production and building.

The fourth stage practically coincides with the great industrial revolution XVIII-XIX, which stimulated the development of the European communism, and was connected with the names R.Owen, F. Taylor, G. Emerson, A. Fayol, M.P. Follitt, E. Mayo, M. Weber and others. It has made more essential impact on the theory and practice of management, than other previous stages.

As the industry grew firstly into manufactory (manual factory) and then into the old factory system, and the modern system of the share capital was ripening, a new diversity form of property was approved. Instead of one owner, there were many shareholders. Instead of one head-owner – some hired (employed) managers-non-owners.

The new property system caused the management to be separated from the production and capital, and soon the transformation of the administration and management into an independent economic power. At that time 2 notions were distinguished: administration that formulated general aims and company policy; management that controlled their realization.

Management is divided into numeral functions. At this time one can observe the creation of the new enterprise budget system. These numerous functions lead to the problem – how to coordinate and connect them on the new basis – to assign the specialists' staff (section, subsection) to each function, and the manager will be given the general coordinate functions.

However management has not become a profession, its role in the production was not a leading one. Only during the monopolist capitalism period when there was a class of the professional managers which soon was separated from capitalists, one could talk about the new radical revolution in society. **It was the fifth stage** of the management development.

The industrial revolution has proved that administrative functions were important as well as technical and financial ones. Till XIX century the main character was manufacturer (capitalist). Soon one begins to realize that the capitalist is not so important in the manufacture administration. Obviously he should waive his leading role. But to whom? Marx thought that he had to waive it to the proletariat. And he hasn't mistaken. Just the proletariat gained the leading positions in the socialist countries, including Soviet Union. Max Weber supposed bureaucracy its successor. And he was also right, because just bureaucracy is the powerful factor in all countries.

The new **sixth stage** of the management development is connected with the development of the "third sector" in the USA during 90s XX. The question is about the voluntary public organizations, situated all over the country. Management didn't avoid that sector. During 80s the voluntaries were housewives, pensioners and in general incidental (odd) people. Now they are

taught, instructed and chosen by the special tests. The voluntaries are treated not as the incidental amateurs but as the unpaid workers.

Having analyzed the given material, one can make a conclusion that the history of management is inseparably linked with the development of manufacture. If we reproduce logically the development of the world manufacture, we'll get such a chain:

1. The antique egasteries, the handicraft workshops, which used the slaveries' work, are supposed to be the earliest manufacture.
2. The medieval handicraft shops headed by the master-owner and with a lot of apprentices, whom one can't call the wage-earners, replaced manufactures.
3. The handicraft shops and urban corporations of the craftsmen were replaced by the manufactures with the wage-earners from the countryside.
4. The manufactures which used only manual labour and were also particularly specialized, were replaced by the early machine manufactory (textile factories). It is also called the old factory system.
5. The mass stream manufacture (conveyor) took the place of the machine manufacture during XIX-XX.
6. In the second half of the XX century the conveyor was substituted by the autonomous brigades and the mechanical labour is changed by the autonomic one.
7. Finally at the end of the XX century the autonomic manufacture is excluded by the robotized one that works due to the waste-free principles.

The theory and practice of management were impetuously developing at the beginning of XIX century. It is connected with the industrial revolution in European countries and in the USA. We'll review this period further.

1.2. The development of the antique management

In spite of the fact that the first management revolutions took place in the Ancient East, just in Greece 2500 years ago there was the turn to the new system of values that stipulated the further development of management. Just Greeks created a new type of civilization – market economy that was based on the honest diligent labour, on the high culture of the democratic governance, and the free development of a personality.

The art of mastering the Greek language was called “cybernetics”, the driving a ship, and the main person at sea – guide (leader) - “cybernetes”. That name was given to the ruler or leader. An order on the Greek sheep was really the example of the organized management system: the precise distribution of duties among many executors, good coordination of activity. The management on the antique sheep was the first model of the efficient mobile trade enterprise organization, the example of a small-scale business.

The Greek management was described by other terms: it is called “coyraneo” in the military sphere (to run the fight), and “oikonomic” (housekeeping) in the everyday's life. Hence the notion “economics” takes its origin.

Athenians were building their civilization systematically combining public and private property. The private sector was based on the family (domestic) farm (property), which used the peasant's and his family labour (oikos). The small handicraft shops (ergasteriya) were more popular in the archaic polis (city-state). There were a few big shops (100-120 slaves).

Any brunch of manufacture (trade, building, handicraft, agriculture) in Ancient Greece was transforming into the brunch of applied economics. The Greek took into account meticulously everything: for example in the viticulture (wine-growing) how to plant efficiently great amount of the vine on the small area; how to dig trenches with necessary depth and combine them into an irrigation system in such a way that they will not destroy the mountain slopes and soil structure. The Greek were attentive to any kind of improvements that could raise the efficiency and quality of the production.

While forming their civilization, the Greek learnt to live and work tastefully, without excessiveness and east luxury, modestly and fine. The refinement in simplicity, art of especially gifted nations, consisted in that fact that:

- the Greek's moderate and clever needs were brought up from the childhood by their way of life and environment: simple clothes, not strong wine, light but nourishing food.
- Greek culture praised spiritual values and public valour more highly than the money and things possession.

Greek management is the science that tells us how to make a lot of thing by nothing at all, how to build the trifle culture and score great success, forming it by means of the everyday little affairs and achievements. Just this way was used by the Japanese and Americans.

The culture of spirit and labour are tightly connected with the culture of business in Antique Greece. Wonderful temples and immortal masterpieces appeared only when the civilized market and the rational management system have been formulated. A barbarian will not admire the refined buildings, he doesn't understand their beauty. They are necessary only for the civilized and competent trader, sailor, craftsman and landowner.

The civilized political system that takes into account each citizen's vote and can appreciate the freedom of speech, focuses on such people. An ill-bred commoner is not able to take part in the democratic administration. Greece brought up a few generations of the competent, initiative and highly motivated citizens who took part in the polis administration with pleasure.

Thus, the initial point of civilization is the ancient Greek community, and its highest stage is West-European public society. The civilization could be possible only after appearing of the commodity-money relations, special business people, new labour ethics, and the rational management.

1.3. The concept of Machiavelli's leadership

1,5 thousand years later the Greek management was changed by West-European one. It was founded by Niccolo Machiavelli (1469-1527). Over a long period of time he aroused interest rather as a political thinker, historian and writer, than as a creator of the management theory. His works – political tractates, historical essays and novels – represented ideas, which together formed the original system of practical management. The specialists point out 4 Machiavelli's principles influenced the management development:

- an authority or leader's power is based on the supporters;
- subordinated people must know, what they can expect from their leader and realize what he expects from them.
- a leader must have will to survival.
- a leader is always an example of wisdom and fair for his supporters.

The basic points of Machiavelli's leadership concept include:

- 1. Weakness for buying and fear of losses.** Machiavelli taught the ruler to coordinate his actions, firstly, with the law of necessity and secondly with the inferiors' behavior. The power is on the leader's side when he takes into account psychology of people, knows the peculiarities of their thinking, moral habits, positive streaks and drawbacks of their character. One needs to find out who is the most dangerous for the leader: one, who wishes to save what they have (possess), or those, who try to have something that they don't have. Rich people are afraid to lose what they have saved up. The fear of loss arouses the same weakness by which people trying to buy smth are seized (consumed). Both power reasons (motives) equally fallacious (vicious).
- 2. The winners can't be judged.** When a lot of people make mistakes (errs), nobody is punished. One can't punish everyone, because there are many guilty people. As a rule a person can be punished for little faults and for big he can be awarded. When everybody is suffering, there are

few people who want to revenge, because it's more easily to endure mutual offence than a personal one.

3. **Will to power.** The focus on the power and on the desire to achieve it conceals some potential danger for the social order, guarantor of which may be only the person who has this power. A ruler, as the personal embodiment of privilege and strength, turns into the aim of the ambitious subjects. A lot of people try to have power in their hands and when they finally get it they try to get the most out of it. "The will to power" is higher than people's feelings. It rules (manages) us against us.
4. **Will is only the wish not to be oppressed.** Will is sure a value together with power. If one always tries to seize power, then one can't lose his will. Machiavelli considers that the will of the republic is better to entrust not to the noble, but to the ordinary (common) people. The first are possessed by wish of power, and the last want just not to be oppressed. Thus they like a free life and have little means to steal the will, than noble people.
5. **The crowd follows the visible success.** What rules man's behavior – motives or consequences, honest or erroneous results? One can often see the meaningless motives and results, and more often – great thoughts with little results. To perceive the illusions instead of reality, to think that the achieved success justifies any means, if they are in possession of the ruler, are characteristics of the laymen. They make crowd. It doesn't know anything about politics; it is interested only in the visible case.
6. **Fear and love.** Two main motives – fear and love control the human's behavior. The person, who people are afraid of, can easily rule, as that whom people love. Love is a delicate thing, fear is stronger than love. For the ruler's sake, it's better to keep the inferiors in fear. However he should do it so, that fear will not grow into hatred, and otherwise nothing will save the ruler from the storming horror. It's not so difficult to achieve the necessary balance; the main thing is not to infringe upon the inferiors' property and personal rights.
7. **The honest man errs more often.** People usually try to show themselves more honest and better, than they really are. But if the ruler indulges in wishful thinking, he deceives himself of his own free will. The honest ruler is more often defeated, because he measures people as he wishes i.e. he considers them better than they are. As opposed to him, the wise ruler studies the realities of life and relies on them.
8. **The ruler must not be generous.** The ruler must not be so generous as it would cause him losses. The provident ruler must not keep all the promises. He must keep them only in that case when non-fulfillment of them will cause damages. While soliciting the power, he promises a lot of things, and by this way he tries to get love and devotion of the inferiors. But to be kind means to be dependent from the inferiors. And where the dependence prevails, there are indecision, coward and light-mindedness, i.e. qualities which are inadmissible for the ruler.
9. **Reward gradually, punish at once.** When one rules people, he should pet or oppress them, and at the same time he should be very attentive. As a rule people revenge only for little offences. The strong pressure deprives them of the revenge. If the leader chose that way, the pressure had to be very strong in order to deprive any resistance. It is correct to do good and beneficial deeds gradually, that the inferiors have enough time to thank. The positive stimuli should be valued, only then they fulfill their purposes. It's better to punish people at once and in great amounts. One-time cruelty causes less irritation, than long one.
10. **Envy causes enemies, persistence – supporters.** Dissatisfaction is a stimulus to motion; it leads to some changes in our fates. We want more than have, but we are afraid to lose what already have purchased. When we envy someone, who lives better, we hate them and make

them our enemies. A desire to obtain is a natural feature. Someone aspires to it as far as possible. Others will not envy, but take, will not condemn, but approve. It's very bad, when they can't, but they solicit, when they don't win, but get.

11. Principle of relativity. All people aspire to one purpose - to glory and riches. Although everybody chooses his own way to it: someone goes prudently, others win it by means of courage; someone uses cunning, others - violence; someone is patient, others - decisive; each of them is able to score a success, in spite of the fact that their actions are contradictory. Why is it possible? Reason is that, that despite the contrast both methods of action correspond to the concrete circumstances. What is well at one can be bad at the other. Some situations demand cruelty, others – indulgence.

Thus, Machiavelli's principle of relativity says: the choice of means depends on the situation, the appraisal of the result – on means, finally all together (aim, means, and situation) should be correlated with each other.

1.4. The foundation of “scientific management” in England

The period during XVII-XIX centuries is the largest mark in the development of the pre-scientific management both from the point of theory and practice. One can see names of those people who have made a great contribution to the formation of the theory: T. Hobbes (1588-1679), A. Smith (1723-1790), R. Owen (1771-1858), D. Ricardo (1772-1823) and others. They are all English philosophers and economists, who have influenced the development of management idea by the social philosophy and political science. Together with theorists one should point out a strong pleiad of rulers-practitioners, who entered the history under the name of the creators of the “scientific management”. Such entrepreneurs, engineers and scientists as J. Watt (1736-1819), M. Bolton (1728-1809), Ch. Babbage (1792-1817) and others paid attention to either engineering - technical or social-psychological manufacture aspects.

The reasons of “scientific management” origin in England are:

- worsening of the labour conditions, caused by the intensive growth of industry and big cities.
- sharpening of economic fight between bourgeoisie and proletariat;
- development of empiric researches (social statistics), enlightenment theories of progress, development of methodological problems of political economy, great outflow of scientific interests to social science from natural history.

Bolton's and Watt experiment. One of the first examples of scientific approach in a management was given in 1800 by Bolton and Watt (England), which was created for the production of steam-engines. Having built a new house for a casting workshop, the founders of firm fully changed the traditional methods of work, adjusting operations to logic of technological process. The new planning of work was built on preliminary made project. The speeds of all machines were studied then for this purpose, in order to know, what product output is possible to expect from them. After that the operations were divided into much smaller elements, which were analyzed, cast aside superfluously and combined into the new operations. Strictly speaking, the question is about the rudiments of modern method to study time and motions (time-study), which was finished by Taylor.

The production tasks in Bolton's and Watt's company were clear standardized and divided into groups, due to what it was succeeded to classify labour payment depending on its meaning, having imposed tariff rates to every type of work. There was a clear system of economic account in a company and calculation of unit and wholesale prices cost.

Robert Owen and his approaches to management. One should single out Robert Owen among scientists. He is well-known as the representative of the utopian socialism. But the history of management shows him as an outstanding figure. By the way, his practical experiments are more meaningful than his theoretical views.

In 1800 30-yearsold Owen became the owner of a big textile factory in New Lanark (Scotland). Owing to his more modern and effective management principles, he made that company

one of the great leaders. Until his coming there were utterly unsatisfactory conditions of labour at the factory which could not help affecting the productivity. Owen has made list of reforms:

1. Production: he shortened a workday from 13 to 12 hours and put things in order at the factory buildings.
2. Social:
 - improved the conditions of labour for his workers;
 - organized the building of the new houses;
 - organized the system of paving the driveways and introduced the system of street cleaning;
 - opened a shop with low prices;
 - forbade children to work till they will be 10 years old;
 - built the Institute of Character Forming, which was used as a school for children and for the evening lectures for workers; it was the first attempt to impose the education for adults among the workers;
 - opened a school for less than 6 years old children, which looked like preschool kinder garden;
3. Moral: he formed a local government and a special file to keep record of the hard drinking. The workers' behavior was controlled at the factory by the inspectors, who used "mute monitors". There were coloured marks (labels) at each worker's place: a black mark was for bad behavior, blue – for indifference, orange – for good behavior and white for an excellent behavior. This system was very effective; the orange and white marks were gradually increasing.

Owen scored a success, not only due to an exceptional attention to the human factor. Quite a lot of time he paid attention to the economic and technical problems, and cared for the income increase, adjusting of the equipment. He tried to get such co-ordinated actions from his workers, which would remind by its exactness of clock-work.

But, despite the successful entrepreneurial and manager's activity, Owen became a social thinker and enlightener in the twilight of life. In 1817 he offers the program of the radical re-erecting of society by creation of self-governing «settlements of community and collaboration", where there are not any private property, class antagonism, exploitation, contradiction, absents between mental and physical work.

In 1824 Robert Owen purchased an estate Harmony in Indiana (THE USA). There were agricultural lands, small manufactures and houses, for people - everything that is necessary to create an experimental co-operative community. He created here society «New Harmony» and invited people to live there. Settlers gathered in crowds in New Harmony, but mostly they did not fit for life in the community and far not all had necessary skills, to cultivate soil or work at the manufactures. The organized society gradually begins to exfoliate, and then tumbled down. People more frequently went for the mass meetings, than worked; they talked a lot about that, how to improve matter-position, but they didn't try to do anything.

Thus, when Owen dare make the theoretical projects real, for the first time he failed. Experimental communist colonies, founded by him, failed. Why Owen - capitalist accompanied by success, and Owen - socialist failed? One can see the following principal reasons:

1. Psychological - Owen adopted an order in communist society, which was well-tested, by it at the capitalist factory: hard regulation and control, clearness of operations, motions, conduct. Even the size of apartments, clothes and property were under strict control. People entered commune voluntarily, in the hope to have free life, but finally they got the cruelest regulation.
2. The second reason of dissatisfaction growth is labour. People came to Owen from businessmen and from surplus labour, because they thought that it was easy to work in a collective. They worked so. As a result the productivity fallen down, and after it the profitability. Interpersonal conflicts and searches of guilty were started.

Comparing Owen's economic and social experiments, one can make a conclusion that in the first case his reforms went "from below", and in the second - «from above». Owen's conduct and tactician was doubtful. Being capitalist, he supported and kindled labour movement, meeting democracy in every way. Having transformed in the socialist, he forbade it at once.

It was Owen, who began practically to decide and scientifically to analyze the problems of motivation and productivity and their interconnection. Without lessening the economic factors value as financial precondition of production, at the same time he proceeded from social relations as that base on which a manager must build the program of the innovations. Therefore Owen spared a lot of time to study the relation of workers to labour, to the management, mutual relations between an employer and workers.

Unfortunately, the «scientific management» founders' activity in England hasn't made noticeable influence neither on a theory nor on practice of labour organization. Progressive innovations took place individually and separately, their results were effective only within the separate enterprises. However, their efforts were the necessary stage in the development of the management science.

1.5. The school of "scientific management". Taylorism.

At the end of XIX - to beginning of XX age centuries the development center of management theory and practices moves from England to America. It was caused by the following reasons:

1. Creation of enormous national and multinational corporations on transport and in industry in the USA which absorbed everything new and up-to-date.
2. Change of the labour organization in the workshop and on the enterprise was going off very slowly. It led to the contradiction between the level of the technique and technology development and the formed system of production relations.
3. The influence of the European capitals, technical experience, and ideas which were searching the high incomes on the one hand, substantially stimulated the development of capitalism in the country, and on the other hand - hindered it. The development of the American production restrained the overload of the superfluous equipments, systematic fanning of the staffs and wasting of the materials at the factories.
4. The American managers practiced frequently the authoritarian methods of management and physical forcing to the labour. The bad conditions of labour, unwarranted earnings, abuses and physical offense of inferiors, sharpened the social tension in industry.

The distinguishing features of the management development in England and America are presented in a Tab. 1.1.

Table 1.1

The peculiarities and differences of the management development in England and in the USA

The peculiarities of management development in England	The peculiarities of management development in the USA
“the local economics”, middle and not big enterprises.	the main factor of development is a large business, large and giant corporations.
mechanization of some operations and, as a result, more perfect machine-tools	mechanization of all operations and, as a result, more perfect lines and conveyers
a technical idea was developed within the academic science, on state basis, and then was realized in practice	Americans borrowed the Europeans best technical ideas and at once converted them into concrete technical models
	more rapid approach to introduce technique, less bureaucratic
the centers of technical progress more frequently were public	the centers of technical progress were enterprises, with own laboratories which was engaged in introduction of technical

F. U. Taylor (1856- 1915) is the founder of «scientific management» in America. Taylor was the first, who gave definition to the concept “management”, naming him «organization of production». Let examine the main points of «scientific management» of F.U. Taylor:

I. Laws and principles of scientific labour organization (SLO). One of the F. Taylor’s achievements in management was the clear scientific system of knowledge about the laws of rational labour organization. Its elements are:

- mathematical method of prime cost calculation;
- differential payment system of work;
- method of time and motions study (time-study);
- way of labour receipts division rationalizations;
- instruction cards and others.

Four scientific principles were the motive force of the new system. Taylor called them the **laws of management:**

1. Creation of scientific foundation, scientific research of every separate type of labour.
2. A selection of workers and managers, their training and studies on the basis of scientific criteria (professional selection, professional consulting and professional studying).
3. Collaboration between administration and workers concerning the practical introduction of SLO.
4. The even and fair distribution of duties (responsibility) between workers and managers.

Basic essence of scientific labour organization is in the following positions:

1. Development of the objective laws (standards and norms of labour), which both the administration and workers must submit.
2. Principle of forces economy means to remove all the erroneous, slow and vain motions, which require the superfluous expense of energy and brings no efficiency.
3. Exact selection and maximally concerted co-operation of all elements of the production system, which remind a clock-work.

II. Timing and distribution of works:

Taylor followed the principle: to control not the worker’s productivity, but his working methods. He paid attention to such control works, as the normalization of tools and equipment, preparation of work and its distribution, instruction cards and checking quality of work.

Conducting empirical researches by means of timing Taylor reached the following conclusions:

1. Unsatisfactory vehicle park requires to complete the work more of the time norm, as determined by timing;
2. It is necessary to systemize every detail in the workshop, based on the principle of uniformity;
3. The need for distribution of work between workers and machines, the procedure for passing the products carried in order to minimize time spent on tasks, orders, materials, etc.

III. Differential system of labour payment and motivation of workers. Analyzing the old payment system, Taylor selected basic problems which arose up at its use:

- 1) The workers were paid for official position, but not for individual capabilities (the presence of man at work was paid);
- 2) Payment of labour depended not on a worker, but on the desire of administration;
- 3) Lazy and diligent workers were identically paid, by that way the leveling principle was legalized;
- 4) Administration reduced rates without any control, and workers answered with the lessening of the productivity;

- 5) The most important thing for workers was the guarantee of the payment, but not the quantity of the work;
- 6) Workers were not interested in the losses of enterprise, and the administration was not interested in the studying of the labour actual time;
- 7) There was no interested collaboration of businessmen and workers.

These problems led to the development of the **differential system** of labour payment. Its main points are:

- higher payment is for the greater volume of work.
- punishment for a shortage and intentional errors, for work with a chill;
- wage increase more quickly, than increase of an output (when the output is increasing on 100%, the wage - on 50-60%);
- two maxima: the especially high pay for the heaviest work and lowest pay for an easy one (it caused the development of the scale concerning the change of work);
- guarantee from cutting of rates at the increase of output and keeping high pay;
- the necessary terms were created for front-rank workers: timely providing with raw material, instrument and technical documentation, details; teaching professional skills.

Basic principle of the differential system said: the backward are fined, front-rank workers are rewarded, and middle workers get a norm.

IV. Managing of a staff is in Taylor's system. At the end of XIX century a manpower policy had certain features on the American enterprises:

- an additional staff was gained by pirating of the best workers by means of money raises and various privileges;
- there was an opinion among businessmen that teaching of workers caused «unproductive charges»;
- former approach assumed that «if there is a suitable man, management methods can be fully given on his discretion».

In the field of the staff management Taylor developed a program «progressing worker». The purpose of such program is to favour the increase of professional level of every worker, inducing him to use his best capabilities, waking up in him proudness and energy and giving a pay for beautiful life.

The program «progressing worker» contains such principles:

- 1) one should give to the worker the task of such complication, that accessible to his abilities and physical force;
- 2) one should encourage him to do work which the first-class specialist of his digit is able to do;
- 3) every worker which works in the greatest rate of the first-class specialist must get premium depending on character of work. It should be from 30% to 100% in comparison to the worker of middle level.

The preparation of leading staff was also Taylor's innovative approach. The old system of linear management required from a leader implementation of the most various functions, which resulted in the overloading of performers. Taylor considered that it would be more easily to pick up and teach a few people (each of which would do one - two functions), than to find and teach one person, who has all qualities and executes the various duties. The **functional administration** was entered (eight masters-inspectors are in place of one) for that purpose.

Although F. Taylor was a bright figure and undoubted leader of «scientific management» school, he was not its unique representative. Among students and supporters of Taylor one can single out such managers and businessmen as G. Town, G. Warton, G. Emerson, F. Gilbrett, L. Brandi and others.

Conception of scientific management, suggested by Taylor, was the serious critical stage due to which a management began to be acknowledged as independent industry of the scientific researches.

1.6. The school of “administrative management”

The development of the problems concerning scientific management at the beginning of XX, faced with the necessity to analyze the principles of organization functioning. The works of Henri Fayol were the answer for this necessity.

H. Fayol (1841 - 1925) is the founder of an administrative management, the purpose of which was to create the universal principles of management. Fayol connected Taylor’s ideas of functional administration and old principle of one-man management. As a result he got a new scheme of management, which became the basis of the modern organization theory.

Fayol intentionally used a term «administration» instead of «management» because of the following reasons:

- «management» is the American term, and the word «administration» is more usually used by French;
- management, caused by the developed market economy, appeared in the private enterprise. A term «administration» vice versa means activity of the state in management; it touches the greatest part of administrative hierarchy, leading staff.

Administrative activity was only part of management by Fayol. The management itself was considerably wider sphere. A notion «management», according to Fayol, combines six basic groups of operations:

- technical and technological activity (production, processing, usage);
- commercial activity (purchase, sale, exchange);
- financial activity (searches and optimum use of capital);
- providing of safety (defence of property and people);
- registration activity (taking of inventory, balance sheet, charges, statistics);
- administrative activity.

At the same time the administration influences only the staff of the enterprise, without any influence on the financial and economic factors of production.

The administrative activity in its turn needs implementation of 5 functions:

1. Planning (prediction) is a constituent of management process, during which the aims, standards and models are formulated, and they are the basis of the administrative organization.
2. Organization is creation of administrative structure, i.e. the providing of necessary level of formalization, involving resources in organization, forming of terms, necessary for normal work;
3. Giving orders foresees requirements of the leader to the inferiors in relation to implementation by them the role expectations, distributing of responsibility, permanent influence on the inferiors’ conduct;
4. Coordination is achievement of correspondence and coordination between different parts of enterprise by way of the rational ties in the production;
5. Control is the verification of implementation in accordance with the accepted program.

Thus, Fayol laid down the foundations of the structural and functional approach in management. It should be considered as functional, because the basic functions of management were certain, and as structural, because functions determined the organization structure.

The theory of administration has two parts. First part is connected with understanding management functions; second one - with understanding its principles. A function determines the sphere of activity, responsibility and jurisdiction of leader. It answers questions, what the leader does. On the contrary, principle answers a question, how the leader does it.

There are substantial differences between functions and management principles: functions are obligatory elements of the administrative process. If one of them loses, the whole management will break. They are expressly adjusted, structured and are a part of « administration science ». Principles embody subjective experience of leader, his philosophy; they are not strictly bound between each other and can be replaced or complemented depending on a concrete situation. Principles show by itself the «art of administration».

Fayol' pointed out the following principles of management:

I. Structural principles

1. Division of labour is diminishing of objects, to which every participant of administrative process pays attention.
2. Authority and responsibility. Authority is a right to command and possibility to force other to submit. Responsibility – is a duty to do tasks and provide their satisfactory completion. The leader's authority should correspond to the responsibility for the most effective work of organization.
3. Unity of orders (undivided authority) - at any activity a worker must be ordered only by one higher person.
4. Unity of administration - types of activity, which are directed on achievement of one purpose, should have one leader and submit to the unique plan.
5. Centralization.
6. Scalar chain (hierarchy).

II. Principles of the process

7. Discipline.
8. Subordination of the personal interests to the general ones.
9. Reward of personnel.
10. Justice.
11. Corporate spirit.

III. Principles of end-point

12. Order.
13. Stability of the personnel in position
14. Initiative.

G. Ford, Ch. Bernard, P. Salfrank studied the development of A. Fayol's ideas and of the administrative school of management.

Obviously, that for the effective work many previous successful companies and individual businessmen use principles developed more than one hundred years ago by the representatives of administrative management school of management.

1.7. "Synthetic" concept of management

Two schools developed approximately during one time but in different countries were higher considered. Obviously, that one needs to combine some basic points of the studies. It was the reason that in 30s of the XX in the USA there was a synthetic conception of management. Its founders were directors of large firms, as, for example G. Mooney is a president of «General motors».

Basic idea of G. Mooney and A. Reilly consists in the fact that effective organization is the system, built on strictly formal principles. They aimed to construct the model of organization as one constructs a machine that is on the basis of logically connected and non-conflicting principles.

They took advantage of logical laws, opened by Levis F. Anderson to formulate the organizational principles. In accordance with Anderson's theory, every principle is described through a process and result. Every process and result in their turn also have their own principles, process and result (Tab. 1.2).

Table 1.2

Logical laws of Mooney and Reilly

	Principle	Process	Result
1. The principle of coordination	authority or coordination	coordination fulfillment	an effect caused by coordination
2. Scalar process	leadership	delegation	functional definition
3. Functional result	legislative functionalism	applied or executive functionalism	interpretative or estimating functionalism

1. Mooney's and Reilly's basic concept is a *principle*. Principles describe the most characteristic and the most widespread features of the organizations. Coordination is the first and major principle of the organization. It contains potentially all other principles, because it combine a scalar process and functional result. Principle of coordination requires the agreement of post functions not only across but also down. This principle asserts: together people achieve much success, than separately.

One needs a centre which regulates and synchronizes general efforts in order to coordinate the actions of ten and hundreds of people. Such leader must be conferred the right to lead and give orders. The formal structure of power gives him legal force. When there is a hierarchy of power, and is legalized, people submit not to the leader, but to the organization where he is the representative.

In addition there must be a certain doctrine, a clear conception or study, which is about what high aims are pursued by organization, how it is going to achieve success.

2. Thus, there is a necessity for a scalar process which foresees the vertical coordination. The scalar principle means the hierarchical construction of organization.

Leadership as the organizational principle foresees power and is shown in the delegation of plenary powers. Leader should turn over some of his authorities to helpers; otherwise he is doomed to implement superfluously wide circle of duties. Delegation must be optimum.

A concept «functional definition» assumes that post duties on every step of management are determined in details and concretely.

3. A *functional result* foresees the determination of duties for every organization member, and thus, places and functions of individual in a hierarchical pyramid.

From middle of XX age England declares about itself again. The founders of synthetic conception of management in England were L. Gulick and L. Urwick. Their approach foresaw expansion of administrative principles and functions. Fayol's system contained 5 functions and 14 principles. Gulick and Urwick formulated 7 functions and 29 principles of management. Such expansion resulted in that fact that Gulick's administrative element system, which foresees planning, organization, completing of the staffs, guidance, coordination, accounting, and budget, has got more perfect form.

Fayol's principle of order («place for everyone and everyone is in his place») becomes major in conception of Gulick and Urwick. Only now it specifies on the necessity to coordinate people and organization. To build organization for people is a hopeless way, as Urwick considered. He offers to use the following logic of rational method concerning the organization: at first one should create well thought-out structure, which doesn't have any subsections or even management levels and then the proper people are chosen.

The representatives of synthetic conception were the first, who pulled out principle of departmentalization that foresees the construction of organization from below upwards, carefully analyzing the necessity to create new subsections on every stage. To answer a question, whether they are needed, one should act in accordance with such scheme: to formulate a purpose; to define a process or type of activity; to set a person or object, with which one has business; to define the place of subsection in the organization.

The principle of departmentalization is closely connected with the principle of power division, which required determining of the concrete activity for every subsection, where it would have exceptional power.

Other principle which played an important role in a «synthetic» theory is a control range. Gulick considered that if the work was various by maintenance and by a result, was deconcentrated territorial, one leader would be able to manage a few people. It is conditioned by the psychological and physical features of human's organism. However, the quantitative measure of control range was already defined by other researchers. They discovered that a leader shouldn't have more than 30 inferiors during physical work, but during mental – not more than 8.

To reduce loading on a leader, Urwick suggested delegating part of his plenary powers to the helpers. Especially it is necessary for higher managers, whom Urwick recommends to apply «principle of exception»: to pay attention only to considerable violation of rules.

In addition, higher managers must also follow the «principle of accordance», which asserts that on all levels of management power and responsibility must coincide. If power is large, and there is no responsibility, it is a way to the self-will, and if responsibility is large, and power no, the actions of manager will have no effect.

The value of Mooney's and Reilly's, Gulick and Urwick works consists in the fact that they were able to connect approaches of Taylor and Fayol. They brought in nothing new, but after them a management theory became more scientific and systematized form.

1.8. The bureaucratic school of management

M. Weber is considered to found the bureaucratic school of management. His interest concerning the bureaucratic organization was not casual. As we already know, the end of XIX - beginning of XX age is an epoch when large-scale organizations were created. But if in the USA they appeared mainly in the private sector of economy, in backward Germany - mainly in state. Weber pointed out such basic principles of bureaucracy:

- a division of labor and responsibility on the basis of functional specialization;
- clear hierarchy of power;
- high exactness, pedantry, in performing the duties;
- system of rules which determine the conduct of employees in the organization;
- system of procedures, which determines the order of actions in all situations;
- integration of the personal qualities between the workers of the organization;
- there is no possibility to appropriate personal place of service;
- complete alienation of management staff from money and property of enterprise;
- selection and promotion of workers;
- distance between leaders and performers;
- professional bureaucratic leader who has administrative skills.
- rational economic conduct.

Major thing to understand bureaucracy is the rationalization principle which is revealed in replacement of internal motivation and favour traditions, by systematic adaptation of people to the interest and benefit. Weber distinguished the positive rationality, which means calculation, quantitative account of all operations and actions, and negative, — rationality which is examined as an end in itself and distant from people's interests.

Bureaucracy is an ideal embodiment of rationality. If it functions so that it only increases superfluous directives, decrees, laws and papers, it is about inefficient bureaucracy. Rational bureaucracy saves efforts, time, does everything more effectively and with high quality. Also one of the preconditions for bureaucracy to appear is domination, or power mechanism. Domination, in opinion of Weber is the ability to perceive obedience of certain people to certain orders. Weber distinguishes a few **types of domination**:

- a patriarchal type is a usual submission (subordination),
- the forced type is a submission by way of compulsion,
- a charisma type is a submission as a result of the leader's personal qualities,
- a legitimate type is a submission as a result of law supremacy confession above all citizens and action of principle «all are equal to law».

Bureaucratic organization is examined by Weber as the depersonalized mechanism, a basic rule of which is the clear and faultless functioning, directed on maximization of income. To attain such purpose, it is necessary to know that:

- 1) organization is free to choose any facilities in order to provide the stability;
- 2) individuals work in such a way that they can be replaced, that's why everyone must do only one task;
- 3) labour is the most acceptable criterion of individuals' successes and is the basis of their existence;
- 4) the performers' conduct is fully determined by the rational scheme, which provides exactness and unambiguity of actions, allows to avoid prejudice in mutual relations.
- 5) In bureaucratic organization *some officials have the following features*:
- 6) they submit only to the objective official duties;
- 7) they are certain on service (but not select) in an unchanging bureaucratic hierarchy;
- 8) they have permanent official jurisdictions;
- 9) they work by contract, that is on the basis of free selection by the professional qualification;
- 10) they are paid permanent money maintenance;
- 11) they consider their service the unique or main profession;
- 12) they see on their own career: "advancement" in accordance with the term of service or by successes in-process;
- 13) they work in complete alienation from administration money and without appropriation of working place.
- 14) they submit to the hard identical official discipline and control.

Unlike other types of management bureaucracy includes the personal dependence, subjective self-will and man's violation of rights. Main categories of bureaucracy are a competence, official discipline and corporate spirit.

1.9. School of psychology and human relations. Behaviorism

In the end of the 19th - the beginning of the 20th century textile, food, machine-building, mining and smelting and other traditional industries were the main industries. Their technological process is simple enough and can be easily divided into the sequence of discrete operations. These operations can be rationed, and the results of their realization tested by an inspector.

In the first quarter of the 19th century the production leading position was occupied by the new industries, such as electric engineering, chemical industry etc. The worker is considerably more difficult to control on such enterprises, high qualification and the ability to operate independently on general issues are required from him. Taylor's approach, based on planning labour process, imposing receptions of labour on the workers is inefficient here. It was necessary to create the terms under which a worker could and would like to work effectively and on his own initiative for the benefit of the company. These preconditions caused the development of the new trend in the history of management – school of "human relations".

The school of human relations is closely connected with the name of the German psychologist Munsterberg (1863-1916). It was he who created the first school of industrial psychologists ever. Munsterberg was one of the founders of psychotechnique.

An American scientist Mary Parker Follett (1868-1933), that studied socio-psychological relations in small groups, shows a great interest in psychological aspects of management in her works. She defined management as "providing of implementation of work with the help of other persons".

However the initial point of "human relations" movement development is considered to be the Hawthorne Studies conducted in "Western Electric Company" near Chicago in 1927-1932, by the leading professor of the Harvard University George Elton Mayo (1880-1940).

They were conducted in four stages. At the first stage the role of illumination was studied. Two groups were created: control and experimental. In both groups the productivity increased almost identically. When illumination got better in an experimental group, the productivity was growing. When it got worse, the productivity remained the same. In the control group illumination did not change, but productivity, however, rose. Conclusion: illumination is the least significant from all the factors that influence the increase of the productivity. Obviously, there are other factors, out-of-control factors that determine the increase of the productivity.

At the second stage the "out-of-control factors" were studied. For this purpose a small group (6 women-operators) were separated from the rest of the group and placed in an experimental room. Together with them there was a scientist-observer that had to fix what was happening and to create a friendly atmosphere. A scientist undertook the functions of the supervisor that applied soft style of guidance.

Scientists offered a number of innovations - breaks, second breakfast provided by the company, and then shorter hours and weeks, that favoured the labour productivity. When they were cancelled, the productivity did not go down. Then was drawn conclusion, that an improvement of terms of labour is not principal reason of increase of making. A question about "out-of-control factors" remained unsolved.

After the researchers had analyzed all possible reasons for productivity increase, they suggested a hypothesis, that the increase can be conditioned by the improvement of the relations among workers and leaders. To prove this hypothesis a scientific program was created at the third stage. It turned out as a result that the worker's productivity is determined not only by his honesty or his physical capabilities, but also by the pressure in the group, that set the position and the status of each member.

For the more profound study of the phenomenon the fourth stage of the experiment was organized. An experimental group was again created from 14 workers-collectors. As a result of the experiment scientists found out the existence of conscious limitation of the worker's productivity norm. What were the reasons for such behavior? The results of the additional researches show:

- 1) low tempo protects slow workers, guarding them from the sharp criticism or firing;
- 2) if workers output too much, then the company will increase the set norm of productivity and will cut away rates;
- 3) the leaders accept the low norm as the satisfactory one, and puts pressure only on those, who lays behind it.

It was also found out, that each group divided into several sub-groups (cliques), but not according to the professional, though personal features. Every clique had the norms and rules of behavior.

The result of the Mayo's experiments is known as the so-called "Hawthorne effect". It claims that the positive results of the experiment were predefined not by the specially created changes, but by the intervention of scientists. Then there is a question: why did not the productivity rise in the group of men? The reason for this is that in the first group (women) an official chief was replaced by a scientist-observer that treated them more softly and humanely. In the second group (men) all remained the same. However, Mayo himself disagreed, that the change of leader influenced the research, since even after the scientists had left the first group the productivity yet remained high during the following 4 years under the old authorities.

Thus, as a result of Hawthorne Studies the following conclusions were drawn:

- people are usually motivated by social needs and feel their individuality due to the relationships with other people;
- as the result of the industrial revolution and rationalization of the process of labour the work lost its attractiveness, and a man tries to find pleasure in social relations;
- people are more sensitive to social influence of equal people, than to the motivation and control measures from the authorities;
- a worker reacts to leader's demands, if the latter can satisfy his social needs;

- the labour productivity will be more effective, if an individual reward is followed by the group and collective reward, and economic stimuli – by socio-psychological.

The conclusions made on the basis of Hawthorne Studies laid the foundation of behavioral approach in management.

Behavioral school began to develop rapidly at the end of the 1950th. Its name the school got from the terms "behavio", "behaviourism" (behavior, science about behavior). The development of behavioral school is connected with the names of Abraham Harold Maslow, Frederick Herzberg, Douglas McGregor, David McClelland, Victor vroom and others. The cornerstone of behaviourism is a necessity to study not consciousness itself, but the human behavior as a reaction to a stimulus, that is a worker, getting a good reward from a manager and giving thus a positive reaction - good job. The main idea of this school is not the adjusting of interpersonal relations, but to find the ways to increase management efficiency by means of increasing the efficiency of her human resources. The representatives of behavioral school studied different aspects of social interaction, motivation, character of power and authority, organizational structure, communication in organization, leadership, etc.

1.10. Features of the Japanese and American management models

In the course of the historical development two different major management models were formed.

First of all, the Japanese management model differs in its orientation: the main object of management is labour resources. The Japanese manager is aimed at improving the enterprise productivity by means of improving due workers' productivity.

Japanese management model is based on the following principles:

- lifelong hire or long-term hire;
- seniority principle;
- interconnection of firm's interests and vital spheres of workers;
- priority of the collective interests over individual ones, supremacy of social needs;
- encouragement of co-operation, within the framework of different small groups, atmosphere of equality between workers regardless of their offices;
- corporate spirit;
- discipline improvement by means of strengthening workers' self-consciousness, but not by means of punishment;
- principle of lifelong continuous study;
- Participation of workers in trade unions that are created within the framework of the firm.

Japanese management style is characterized by the following features:

- 1) job security and trust;
- 2) publicity and values of corporation;
- 3) management that is based on information;
- 4) management oriented on quality;
- 5) permanent presence of authorities at work;
- 6) cleanness and discipline.

A central place in the Japanese management occupies a quality management. The groups of quality, which include masters and engineers besides workers, operate in all spheres of the Japanese economy.

The groups of quality have the following tasks:

- to contribute to the improvement and development of enterprise;
- to create healthy, creative and benevolent atmosphere;

- to help to develop workers' capabilities and use these capabilities for the benefit of the company.

Quality management has a number of advantages:

- it gives the real guarantee of quality;
- complex quality management exposes communication channels within the company. It allows to find out a problem, before it results in serious problems;
- it gives an opportunity to follow changeable tastes and positions of customers, in order meet their requirements;
- complex quality management gets to consciousness of people and helps to find out erroneous information, and also avoid the use of erroneous data about producing and realization of products.

However basic principles of the Japanese model had become inefficient lately. Firstly, life expectancy in Japan grew longer, as a result of this the realization of "lifelong hire" principle meets some difficulties: it's necessary not only to maintain the workplace for one person, but also increase in enterprise expenditure, related to the increase of length of service. Secondly, "lifelong hire" principle means "superfluous" personnel that prevents introduction of new effective materials management systems.

American management model differs greatly from the Japanese model.

Modern American management is based on three historical pre-conditions:

1. Market presence.
2. Industrial method of organization of production.
3. Corporation as a basic form of enterprise.

American management model has the following features:

- considerable theoretical grounding of management processes;
- an American leader is aimed at maximal income, i.e. receiving the highest income with the least efforts;
- strict hierarchical structure: every worker has one chief only;
- post instructions are clearly prescribed;
- contract work;
- worker's reward is determined by the category of his/her workplace, length of service is rarely taken into account;
- hourly wage, fines for delays and reproofs for arrival on work earlier than a certain hour, conception "exactly in time".
- prospects of promotion depending on the efforts and competence of workers, but not on the work experience;
- complex quality control. In accordance with this conception quality is included as the responsibility of each post;
- encouragement of competition and cheating in the groups;
- creation of branch trade unions.

Having analyzed all the features of the American model it is possible to distinguish such main drawbacks of it:

- 1) diminishing to flexibility at the change of productive tasks, decreasing of workers' satisfaction, growth of tiredness because of monotony;
- 2) losses of efficiency of hierarchical organization in those industries, where the ranges of goods are big and productive process include many stages;
- 3) American managers want to get profit fast, fix the problem "fast";
- 4) numerous management levels, and as a result the enlargement of bureaucratic stuff and transaction expenditure.

It is possible to define the basic distinguishing features of the American and Japanese management models (Tab. 1.3)

Table 1.3

Comparative description of the Japanese and American managements

Japan	USA
Rotation of personnel	Selection of personnel
Lifelong hire	Short-term hire
Seniority principle in paying wages	Payment on labour results
Informal control	Formal control
Clear tasks	Unclear tasks
Collective responsibility	Individual responsibility
No connection between the task and the post	Task is determined by position
Aim at co-ordination and collaboration	Aim at efficiency and results
Collective decision-making	Individual decision-making
Management “from the bottom to the top”	Management “from the top to the bottom”
In-plant training	Special program of in-service training

Table 1.3 (continued)

Recruiting of new graduating students of higher educational establishments	Recruiting of new graduating students and experienced employees
Long-term orientation	Special attention to current results
Participation of workers in quality control	Individual methods of quality control
Special attention to workers	Attention both to workers and work

1.11. Management development in Ukraine

Management system existed in Ukraine at the times of Kyiv Rus. This period is characterized not by the development of the theory, but by the usage of separate principles of management in practical activity.

The first theoretical works date back to the 18th – 19th centuries. However the development of administrative idea in Ukraine is impossible to view separate from the development of management in Russia. The reason is the absence of the majesty in Ukraine. Such prominent scientists as Mykhailo Livanov (1751-1800), Volodymyr Vernadskyi (1821-1884), Mykhailo Tugan-Baranovski (1865-1919), Hauswald (1865-1942), Bogdanov (1873-1928), Jermanski (1866-1941), Gastev (1882-1941), Kerzhentsev (1881-1940), Dunayevski (1887-1960) studied the management development in Russia and Ukraine.

The characteristic spheres of research for this group of scientists were: the search of laws, principles of the organizational systems, methods and principles of management, selection of training and in-service training of personnel; roles work style of managers. The scientists mentioned above grounded the complex approach to management, systematic character of management studies. Certain fields of scientific management in Russia and Ukraine passed ahead of similar theories in other countries.

The questions of administrative control, collective nature and undivided authority, improvement of organizational structure, psychology of authoritarian guidance and management styles were studied by the All-Ukrainian institute of labour (Kharkiv) headed by Dunayevski.

He considered social scales the main condition of production rationalization. Thus, for example, from the point of view of separate enterprise it would be most "productive" to load a certain plant with 100% orders using all his productive capacities, although the state would prefer to close it. That's why the managers should analyze thoroughly the situation, before making final administrative decision.

One of fundamental questions that was actively discussed in the world literature of those years was the classification of management functions. Dunayevski made the principle of structural role of functions in the system of a whole the core of his classification and distinguished three basic phases of organizational process:

- initiation, i.e. embodiment of project of administrative structure is in the first real actions;
- ordination, i.e. period of adjusting of administrative body activity from an initial phase up to its normal functioning;
- administrations, i.e. operative work on administrative problems-solving in the organized management system.

While analyzing the work of administrative body the All-Ukrainian institute of labour applied the so-called operogram that is a scale of working process with indicating application of details under treatment. The sequence of the stages and processes, volume of work on every cycle and time needed are shown here. Operogram was a model built on the basis of engineering calculation. It is quite simple: the structure of workplaces must find out a necessary structure and quantity of personnel and managers. Superfluous vacancies are easily found out and shortened.

Simple functional diagrams allowed to calculate an exact number of workers, to produce instructions, process orders on equipment, to set production norms and terms, aims and tasks of activity. Application of such method allowed to reduce the number bureaucratic authorities and duplicate orders and functions, find and remove weak points in management, reduce first costs and due dates, increase personal interest in labour.

Dunayevski was the first to propose the theory of "administrative capacity", that is the manager's ability to work straight with a certain number of persons. Dunayevski claims that "administrative capacity" can considerably vary depending on the manager's skills, his/her personal features and available technology.

However these researches didn't become the basis for any new management school, as managers were not very interested in theoretical researches because of prevailing administrative form of management in the country. However the 20th century mightily saw the development of some huge scientific centers that actively conducted researches in this field.

Viktor Glushakov (1923-1982) headed the researches in the field of working out and introduction of mathematical methods in the practice of prognostication and design of the productive systems. The representatives of this school worked out methodology of automated management system creation.

Scientific school headed by Rybalski worked out the methods of complex building sites management. The scientists improved planning methods and flow control on the basis of optimal network models. Developing network models the scientist paid special attention to the definition of aims, search of methods and ways of their achievement. Thus, goal-orientated management conception and management functions theory came into being. The scientists proved that management functions could be represented as a three-dimensional model named afterwards "cube of Rybalski".

At the beginning of 1980th a special group of scientists headed by Gennadiy Dobrov was organized. The group began developing conception of program-purpose management. The basis of this approach was the working out method of specific plans on the achievement of certain goals that would provide a perfect co-ordination of measures with the goals. The concept "management" included: definition of aims; allocation of resources; the use of the system of economic, organizational, legal, socio-psychological, technological measures of influence on the human productive relations. The constituent part of such conception was a morphological model of management. Such conception presupposed development of flexible organizational structures of management, aimed at the achievement of goals.

Interesting researches were conducted in the Institute of economy of the Academy of Sciences of Ukraine by Valerij Golikov, Volodymyr Gejts and others. The object of their interest was the systems of relations in management, control scopes of activity, application of economic-mathematical methods of prognostication in the system of long-range national economy complex development planning.

The 1990s saw the reorganization of old structures of management and power in the Ukrainian economy, caused by the transition of the country from an administratively-command to the market economy. Western management models were largely used. However a plain transference

of management conception from one socio-cultural environment into the other one, blind copying of the experience of the other states is almost impossible and has bad economic and social consequences. Therefore the development of modern management in Ukraine should be based on the combination of the world experience and knowledge and their adaptation to certain conditions. Moreover certain factors that determine the features of national management development should be taken into account.

Questions for self-check:

1. Analyze the history of development of the term "management".
 2. Characterize the basic stages of development of management history.
 3. Analyze the world production development.
 4. What are the specific features of ancient management?
 5. Talk on the main points of the Machiavelli's conception of leadership.
 6. Describe the experiment of Boulton and Watt at the company producing steam-engines.
 7. Analyze Owen's management approaches. What are the reasons for his success and his failure?
 8. Compare the development of management in America and England in the end of the 19th - the beginning of the 20th centuries.
 9. What are the basic laws and principles of scientific organization of labour?
 10. Describe Taylor's "scientific management".
 11. What are the basic functions and management principles according to Henri Fayol. What are the differences between the functions and principles?
 12. Describe Reilly and Mooney's logical laws.
 13. Give the definition of Gulick and Urwick's synthetic conception.
 14. Give the characteristics of the bureaucratic school of management.
 15. Give the premises for school of psychology and human relations development.
 16. Describe the Hawthorne Studies. What conclusions can be drawn on the basis of the Hawthorne Studies?
 17. Analyze the basic principles and features of the Japanese management.
 18. Compare the American and Japanese models of management. What are their pros and cons?
 19. What are the main trends of the scientific researches made by the representatives of Kharkiv school of management?
- Describe the main periods of management science development in Ukraine.

CHAPTER 2. PRINCIPLES OF MANAGEMENT

Objective: *the formation of modern management thinking and special knowledge system in the field of management, understanding of the conceptual bases of systematic management of organizations, acquiring skills of analysis of internal and external environment, the adoption of appropriate management decisions.*

Subject: *general laws, principles of formation, function and development of the management organization; administrative relations.*

Content modules: *Objectives of joint activities, management subject and object. Organization as an open system. Internal and external environment of organization, life cycle stages. Management principles and functions. Technology and system of management methods. The content and management process components. Planning as a management function. Elements of organization: duties, authority, responsibility. Delegation of activities. Construction of the organization, organizational design. Elements of organizational structures, macro-and micro organization. Classification of administrative decisions. Motivation and its main components. Essence, elements and process of management control. Forms of authority and influence. Theories of leadership. Formal and informal leadership. Management styles. Adaptive management. Conflict situations. Types of innovation. Change management, overcoming resistance. Social responsibility in management. Business ethics. Culture of organization. Management efficiency.*

2.1. Basic management concepts and categories.

Manager is a director-professional, who is employed and specializes in enhancing profits. **Management** is *an ability to achieve their goals by using labor, intelligence, behavior motives of others.*

In addition to the concept of management, there is a concept of "governance" as a synonym for "administration". Sometimes governance is used as a synonym for management, and sometimes governance is broader notion than management¹).

Thus, in general it can be written as follows:

Governance \geq management

Governance (administration) \neq management

Governance means *affected system or individual processes, occurring in it, to change its status or to add new properties or qualities.* But as the governance belongs to the technical («machine-machine»), social and technical («man - machine») and other systems, and management takes place only in relations within the social and economic system, so it is worth noting that governance is a broader notion.

As for the governance of any resource, it is considered to be a synonym for management. When it comes to the administration, it has a slightly different shade, namely: administrative management does not encourage initiative. In Fig. 2.1 a proportion of concepts "administration" and "management" is represented. If one prefers hierarchy, so it concerns administration, on the contrary, if market instruments are mainly used, we can speak of management. Culture is a very effective, but most "inertial" management tool.

Summarizing the above mentioned, we note that as a separate type of professional activity management is possible only on the basis of the organized market and that which develops, as it is the managerial mechanism, built into the market economy.

¹ There are about three hundreds of term «management» meanings, but their general idea is such: in order to manage, first of all, one should influence and, secondly, one should see its influence goal. Besides, it's necessary to note that in many dictionaries terms "management" and "governance" are identical.

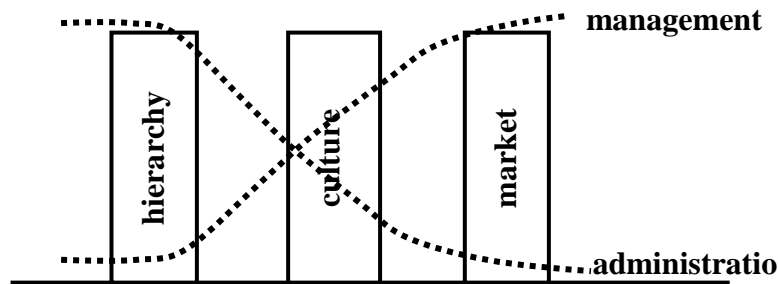


Figure 2.1 – Three management tools

Work of a manager is the mental work, which consists of three activities: **organizational and administrative and educational, heuristic²** (analytical, constructive, creative) and **operator** (informational and technical).

Besides, specific manager work consists in follows:

- manager participates in the creation of material goods and services indirectly, through and with the help of other workers' labour;
- information is the subject of labour;
- organizational and computer engineering are means of work;
- management decision is the result of labor.

In the management activity management subject and object are allocated.

The subject of management can be a single person or a group of people, the relevant public institutions (organizations, institutions), staff management, which should:

- be able to determine the purpose clearly and consciously;
- develop and choose ways to influence and methods of achieving its objectives;
- be able to register the fact of the goal;
- make the management process.

The object of management is a controlled link, management system element that treats governing effect of other elements. The object of management can be organizationally separated divisions, sites, departments, branches of enterprises, an enterprise in general, but at the end - again a man in the process of production.

With the help of administrative work the interaction between management subject and object acts.

Regarding the term "business activity", it is necessary to give a clarification of the differences between the terms "manager" and "enterpriser". Manager, as we found out, is a professional, manager, who works for hire, while **enterpriser** is a person, who invests their money in business organization and assumes a specific risk, associated with its results, and all responsibility for the outcomes of both individually and collectively activity.

Thus, **entrepreneurial activity** is the main type of independent business, that is realized by natural and legal persons, called entrepreneurs, on its behalf and at your own risk on an ongoing basis.

Under the management functions one should understand relatively separate areas of management activity (working processes in the management field). Key management functions are planning, organization, motivation, regulation, control.

Management techniques are methods of achieving the goal. One allocates:

- 1) organizational and regulating (administrative) management methods;
- 2) economic;
- 3) social and psychological;

² **Heuristics** is a set of logical methods and methodological rules of the theoretical research and truth search, here it is a method, that allows to reduce a number of variants, which are studied making an issue.

- 4) ideological;
- 5) legal.

From all the groups of methods we will study the first three, because the ideological methods are the prerogative of political leaders, and legal – of lawyers.

Organizational and regulating (administrative) methods are based on respect: authority - submission. Administrative methods are a system of direct administrative influence on subordinates.

Organizational and regulating (administrative) methods are based on the relation: authority - subordination. Administrative methods make a system of direct administrative influence on subordinates.

Organizational and regulating methods can be divided into the following methods:

1. Organizational influence (regulation, standardization, instruction and information). Note the **advantages** of methods of this group: they allow to create a coherent management structure, to accustom to a certain order the entire team. Methods work long, effectively and with feedback. **Disadvantages** of these methods: they require significant both material and spiritual costs for creating of governance system.
2. Regulating influence (commands, orders, instructions, personal requests, disciplinary actions). All the advantages of the methods of this group can be reduced to one: a quick response. But there are drawbacks: expensive control and certain instability. Lack of feedback to the moment of order (order).

Economic management techniques are a combination of means and tools, that deliberately affect the conditions for the operation and business development. Economic mechanism scales correspond with social and economic nature of the enterprise and it is one of the factors of production development and exchange on a market basis. The economic methods include: commercial and intracompany calculations, planning, pricing, financing, taxation system, economic analysis.

Social and psychological management methods is a set of specific techniques to influence the process of workers formation and development, social processes occurring within them, the structure of relations between individuals, their interests, incentives, social problems, which represent the unity of two aspects of managerial influence on employees - social and psychological.

Social influence manifests itself through a set of specific methods and techniques of formation and development of production team, labor and creative activity of its workers, spiritual interests of the people and their worldview.

Psychological effect is to regulate relations between members of the production team to create in it a favorable psychological climate.

2.2. Planning as a management function

With all the diversity of forms of entrepreneurship one distinguishes key positions, used in virtually all areas of business and for different companies, which are necessary to prepare himself in time, to avoid potential difficulties and risks, thereby reducing risk in achieving the goals. Developing of strategies and tactics of industrial and economic activity is the most important task for any business.

*The contents of **intraorganizational planning** as a function of the organization management is a reasonable definition of the main directions and proportions of production development in the light of its financial sources and market demand.*

*The essence of **planning** is found in concrete development goals throughout the organization and each unit separately for a fixed period of time; determining the economic problems, means of their achievement, the timing and sequence of implementation and identification of materials, labor and financial resources necessary to solve the tasks.*

Depending on the content, objectives and tasks one entails the following forms of planning and types of plans:

1. *Forms of planning depending on the duration of the plan period:*

- perspective (strategic) planning (forecasting);
- medium-term planning (business plan);
- current (budgetary, operational) planning.

2. *Types of plans:*

- depending on the business content - plans of research and research and development activities; production and marketing; logistics; financial plan;
- depending on the organizational structure of enterprises (companies) - plans of production unit, plans of subsidiary.

Planning includes: targeting grounds, the determining of policy, developing of activities (modus operandi), methods of achieving goals, providing a basis for further long-term solutions. Planning ends before beginning plan implementation actions. Planning is the initial stage of management, but it represents not only a single act, but a process which continues until the end of the planned operation complex (Fig. 2.2).

Planning is aimed at optimal use of the organization, including the best use of all kinds of

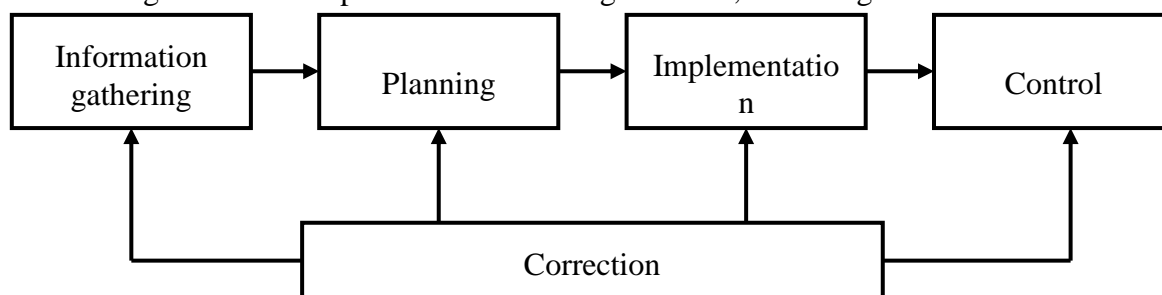


Figure 2.2 – General scheme of organization

resources and prevents erroneous actions.

2.3. *Organization: notion, purpose, properties.*

Organization is a social community, that consists of a group of people whose activities are consciously coordinated to achieve mutual goals or goals system, and structure is fixed in the Charter.

From the definition organization requirements follow:

- presence of at least two people who consider themselves part of a group;
- presence of at least one goal, which is considered common by all the members of the group;
- conscious group work to achieve meaningful goal for all (or group of targets).

Common characteristics of organization:

1. Resources.
2. Dependence on the environment.
3. Horizontal division of labor.
4. Vertical division of labor.
5. Structure of organization
6. Need for control.

One should also know that **an organization** is a system, i.e. a set of interacting elements that make up the integrity, which has properties different from the properties of the components.

Thereby an organization is composed of management and managed subsystems (Fig. 2.3). Control system contains components that provide management process. The structure of managed subsystem includes elements that provide the direct process of production, economic, commercial and other activities.

There are informal institutions, which arise in almost all formal organizations, except

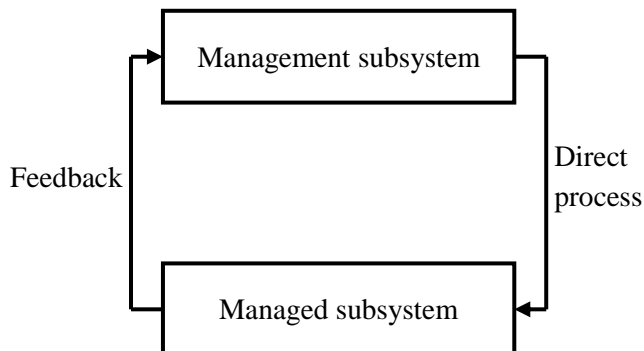


Figure 2.3 – Interaction of management and managed subsystems

very small.

Informal organization is a social unity, which purpose and structure are born spontaneously in the process of interaction. As in formal organizations, goals are the reason of such an organization existence. In large organizations there are several informal organizations, which can join the network.

In the informal organization there are unwritten rules - rules that are standards of behavior. The top reasons of joining the group are a sense of belonging, mutual aid, protection, close communication and sympathy.

The main characteristics of informal organizations that strongly influence the effectiveness of formal organization are social control, resistance to change and presence of strong informal leader.

The internal environment of organization is represented, according to Meskon, Alberta, Hedouri and others, by such variables - **goals, structure, tasks, technology and people** (Fig. 2.4).

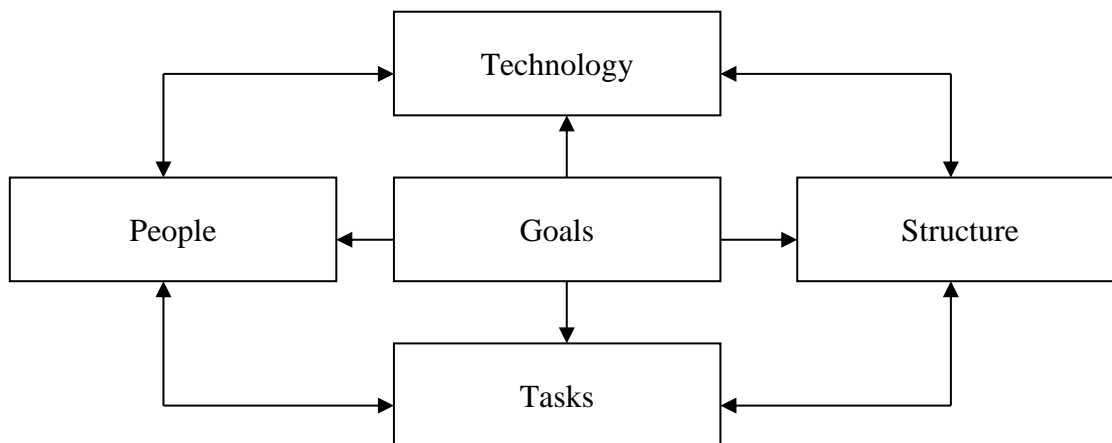


Figure 2.4 – Relationship of internal variables

Goal is a specific final state or desired result of the organization.

Structure is a logical relationship of management levels and functional areas, built in a form which allows most effectively achieving organizational goals.

Task is an ordered work, a series of works or a part of the work that must be fulfilled in advance with the predetermined method in a predetermined period of time.

Technology is a combination of qualification skills, equipment, informstructures, tools and related technical tasks required to implement the desired changes in materials, information, human

resources. Classification of technology by Joanne Woodward is single, small branch or individual production, mass or large-scale production and, finally, continuous production (such as oil refining, steel and copper production).

People is a central factor of any management model, including the situational approach. They are characterized by the following *characteristics* as abilities, endowments, inclinations, needs, knowledge, expectations, attitudes towards work, position, opinions and perceptions (realization of incentives derived from the senses), understanding of values, impact of environment on personality and its behavior, availability of leader skills.

Regarding the environment, the manager must analyze:

1. **External environment of direct impact** - contains factors that directly affect the organization. They include suppliers, shareholders, labor, laws and institutions of government regulation, trade unions, consumers and competitors.
2. **The external environment of indirect impact**, which contains factors that can not make a direct immediate impact on the organization, but affect its functioning. The question is about such factors as economic state, scientific and technical progress, social and cultural and political changes, the impact of group interests and significant for the organization events in other countries.

Under the management structure of the organization one means *an ordered set of interrelated elements that are each in stable relationships that ensure their development and functioning as a comprehensive whole*.

The management structure is characterized by relations between its elements. **Horizontal relations** constitute agreement and they are, under the rules, of peer. **Vertical relations** are ties of submission, if there are multiple levels of management. Vertical relations may have **linear** and **functional** character.

Linear relations mean subordination of line managers, i.e. on all matters of management. *Functional relations* occur in the submission of the defined group of problems to a functional manager.

There are two types of structures:

1. Mechanistic or bureaucratic structures. Formal rules, the narrow specialization of work, a clear hierarchical division of power are mostly used in these structures. These structures include: linear, functional, linear and functional, divisional.
2. Organic, or adaptive structures. Adaptive ones are more flexible compared with the bureaucratic organizational structures. Their essence is the ability to adapt to a changing environment, similar to how it is done by living organisms. Organic types include: project and matrix structures.

The linear structure is formed by the management staff building with only intersubordinate bodies in a hierarchical gradation (Fig. 2.5):

At the head of each department there is a head that full-endowed and very heavy exercises alone leadership over his subordinate employees and he concentrates in the hands all management functions. A head himself is directly subordinate to head higher.

The structure *is used* by small and medium firms, which accomplish simple production in the absence of broad cooperation relations between enterprises.

Advantages of linear structure are the unity and clarity of regulating activities; coordination of performer actions; clear system of mutual relations between managers and employees; quick reaction in response to direct instructions, receiving by agents corresponded to each other orders and tasks, secured by resources, personal responsibility of the head for the outcomes of his unit.

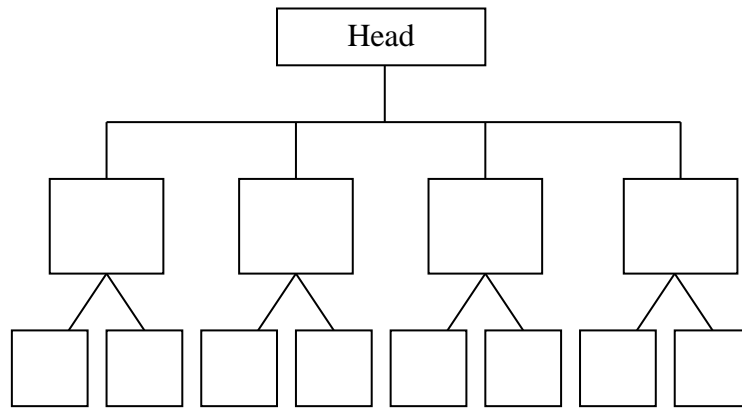


Figure 2.5 – The linear structure of management

Disadvantages of the linear management structure are the following: high requirements to the leader, who should have great knowledge and diverse experience in all management functions and areas with ongoing employees, which limits head opportunities for effective management; overload of top managers, a huge amount of information, Securities flow , the plurality of contacts with subordinates and higher; a tendency to delays in addressing issues related to several units, lack of links with planning and management decision preparation.

Linear and staff structure includes a specially created line of executives consisting of professionals in a narrow range of issues and who take upon themselves the development of one or another element in the planning and making management decisions (Fig. 2.6).

The main task of headquarters units is to help the straight-line manager in the

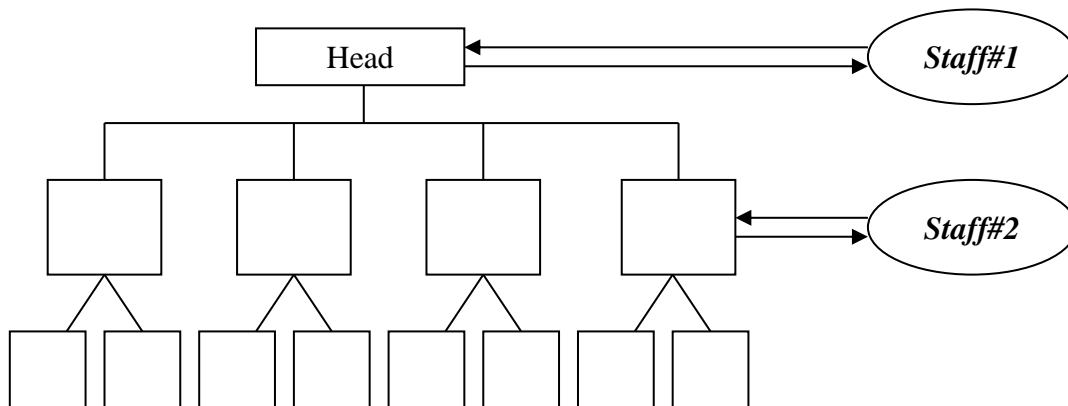


Figure 2.6 – Linear and staff management structure

implementation of some management functions. The staff structure includes staff specialists at higher managers.

The staff units include controlling services, coordination and analysis departments, a group of grid planning, sociological, legal service. Creating of staff structures is a step towards the division of managers' labour. Often managers of headquarters units are given to functional management rights. They include planning and economic department, accounting department, marketing department, HR department.

Advantages of the structure are the following: more deep and meaningful training of administrative decisions; release of linear managers from excessive load, the possibility of involvement of specialists and experts in specific fields.

There are some **disadvantages**: lack of clear responsibility, because the one who prepares the decision is not involved in its implementation, the tendency to over-centralization, keeping high requirements for senior decision-making manager.

Functional structure assumes that each governing body specializes in fulfilling of certain functions at all governance levels. Decisions on general issues are taken collectively (Fig. 2.7). Functional specialization of management staff increases its efficiency, because instead of global managers who should have an understanding in the implementation of all functions, there appears highly qualified professionals staff.

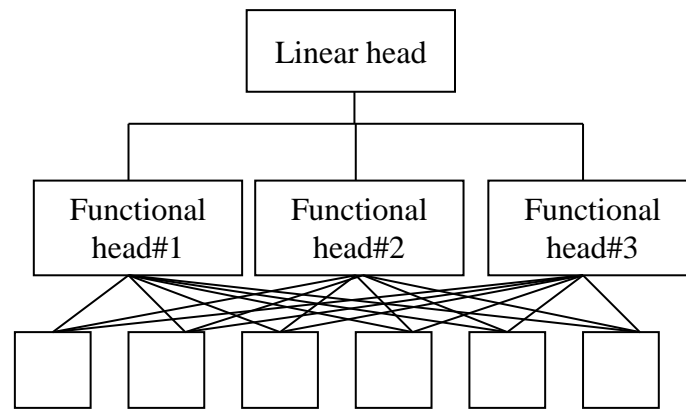


Figure 2.7 – Functional structure of management

The structure aims to carry constantly repeated routine tasks, which do not require prompt making of decisions. They are used in the management of mass organizations or large-type production, as well as the expendable economic mechanism, when production is the least susceptible to NTP.

The main **advantages** of structure are the high competence of professionals, who are responsible for specific functions implementation, release of linear managers to address many special issues and expand their capabilities of the operational management of production, one creates the basis for use in the work consultations of experienced specialists, one reduces the need for experts in a wide profile.

There are certain **disadvantages** are difficult to maintain constant relations between different functional services; lengthy procedure of decision-making process, lack of understanding and unity of actions between the functional services, reducing of the executors responsibility for work as a result of the fact that each agent receives instructions from a few leaders; duplication and non-compliance of orders and instructions received by employees, since each functional manager and a specialized division put their problems on top.

Linear and functional structure provides the division of administrative work in which the management linear chains are formed to command, and functional - to advise, assist in the specific issues development and the relevant decisions, programs and plans preparation. The role of functional services depends on the economic activity scales and firm management structure as a whole. Functional services provide all the technical preparations of production, prepare variants of the issues solutions, connected with the production process leadership.

Advantages of the structure are: the release of linear managers to address many issues related to financial planning calculations, logistics, etc.; building of relationships "head - subordinate" by hierarchical gradation in which each employee is a subject to only one supervisor.

Disadvantages of the structure are: each link is interested in achieving its narrow objective, and not the overall goal of the firm, the lack of close relationships and interaction on the horizontal level between production units; overly developed system of vertical interaction, accumulating at the top authority level for the decision along with many strategic operational problems (as a result of vertical relations "head - subordinate").

Divisional structure includes structured organization with offices, which are usually for one of the criteria: in what is released (food speciality), with a focus on the consumer, the regions, which are served. Heads of secondary functional services report to the production unit. Assistants of production office head control the functional services activity for all plants in office, coordinating their activities horizontally. Scheme of the product structure is shown in Fig. 2.8.

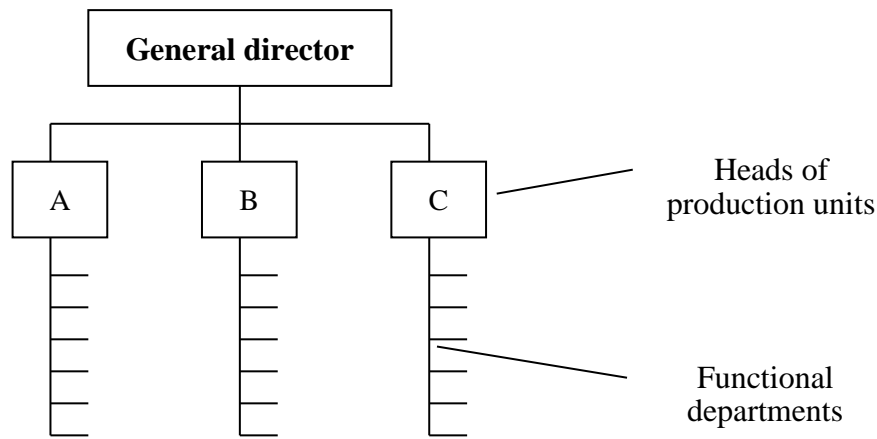


Figure 2.8 – Divisional structure of management

Advantages of the divisional structure are a close relationship between production and customers, the accelerated response to changes in the environment, improving coordination of activities in the departments as a result of the subordination to one person, in units – appearing of the competitive advantages of small firms due to their mobilization.

Some **disadvantages** in the structure are growth of hierarchy, vertical management, duplication of management functions at different levels leads to higher costs on managerial staff hold; duplication of works in different divisions.

Project structure is a temporary structure that is created for solving a specific problem. Its content is to gather into one team the most skilled employees to implement a complex project on time with a given level of quality, without exceeding the established budget.

The most famous variant of designed organization is **the matrix structure**. It is a modern type of effective organizational management structure, built on the principle of double subordination of performers: on the one hand, the supervisor of functional service that provides personnel and technical assistance, on the other hand - the project manager (target program) that is vested with necessary powers to carry out the management according to scheduled deadlines, resources and quality (Fig 2.9).

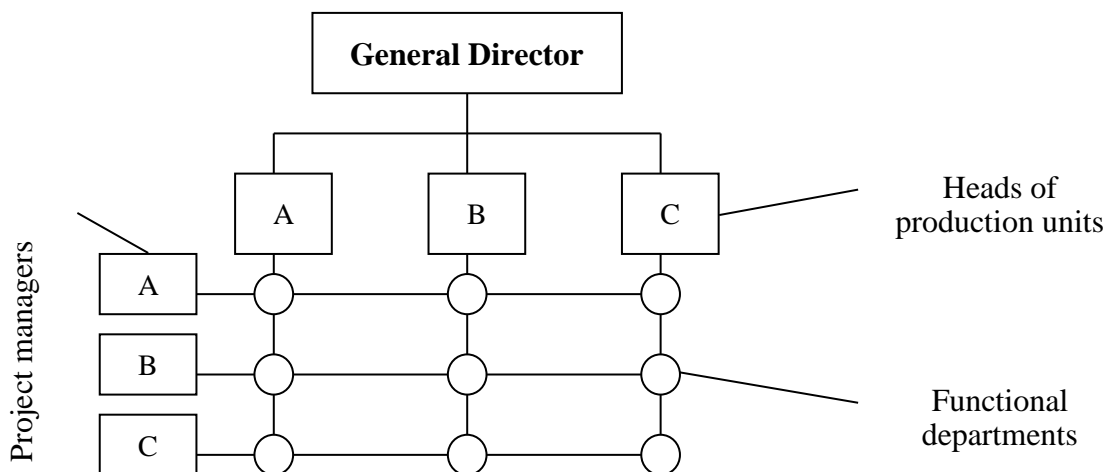


Figure 2.9 – Matrix structure of management

Going to matrix structure usually covers the organization, with its success depends on how project managers meet the professional skills of managers. Creating of a structure is appropriate when there is a need to master a number of new and complex products in short time. It is used mostly in the scientific areas.

Advantages are the following: better focus on project goals and demand, more efficient ongoing management, the possibility of costs reducing, improving of created products quality, increasing of efficient use of resources, involvement of managers at all levels and areas to the creative activity with the acceleration of technical improvement of production, resources flexibility and maneuvering speed, while several programs are fulfilled in one firm, increased manager personal responsibility for the program in general and its elements, possibility of management effective methods using, the relative autonomy of the project groups facilitates the development of worker's skills in the field of business transactions, decision making and their professional skills; reaction time at flaws of the project and the desire of customers are reduced.

There are **disadvantages** of matrix structures are problems in establishing of tasks priorities and specialists time distribution on projects, may affect the stability of the firm, the difficulties of establishing of clear responsibility for the work unit, the possibility of violation of rules and standards adopted in the business units through an employees long break, involved in the project from their offices; difficulties in acquiring the skills necessary to work effectively in groups, conflicts between the managers of functional departments and project managers.

Except for studied types of organizational structures, there are also organizations such as **conglomerate**. This occurs, when the organization takes the form that is best for a particular situation, or with acquisition or purchase of other companies it is impractical to change their organizational structures. For example, one department of the firm may use food structure, other - functional structure, and the third - project or matrix organization.

2.4. Motivation: the meaning of the function and purpose

In the general the **motivation** - is the process of inducement itself and others to activity for achievement the particular goals.

There is a number of notions one has to consider: needs, rewards and motivations.

Need – is a sense physiologically or psychologically lack of anything. Therefore, there is conditional division of needs into *primary and secondary*. **Primary** – are considered to be *physiological and born for their nature*. **Secondary** - are *psychological, acquired for their nature*. For example, requirements for success, respect, commitment, power and necessity of belonging to someone or something.

Reward – is everything that people consider to be valuable for himself. But the notion of human values is specific, and therefore the different evaluation and rewards its relative value. The basis of motivation is the **motives** which are considered to be the active motive forces, which determine the behavior of living beings.

The modern approaches to motivation can be divided into two types - procedural and contextual theory of motivation.

Let's examine **the contextual theories of motivation**.

According to **Maslow's theory** all human needs can be divided into five groups.

Physiological needs are necessary for survival. They include the need for food, water, shelter, health and sexual needs.

Existential needs, i.e. needs for security and confidence in the future, which provide protection needs from physical and psychological dangers of the outside world and the belief that physiological needs are satisfied in the future.

Social needs - are the needs for involvement, belonging to any human community, groups of people which provide a sense that you are accepted by others, a sense of social interaction, commitment and support.

Prestigious needs or requirements in respect - involve the need for self-esteem, competence, respect of the environment, recognition, and the need for personal achievements.

Spiritual, or self-expression needs, self-realization – need in realization of their potential opportunities and growth as individuals.

The whole complex needs can be placed in hierarchical order, as shown in Fig. 2.10.

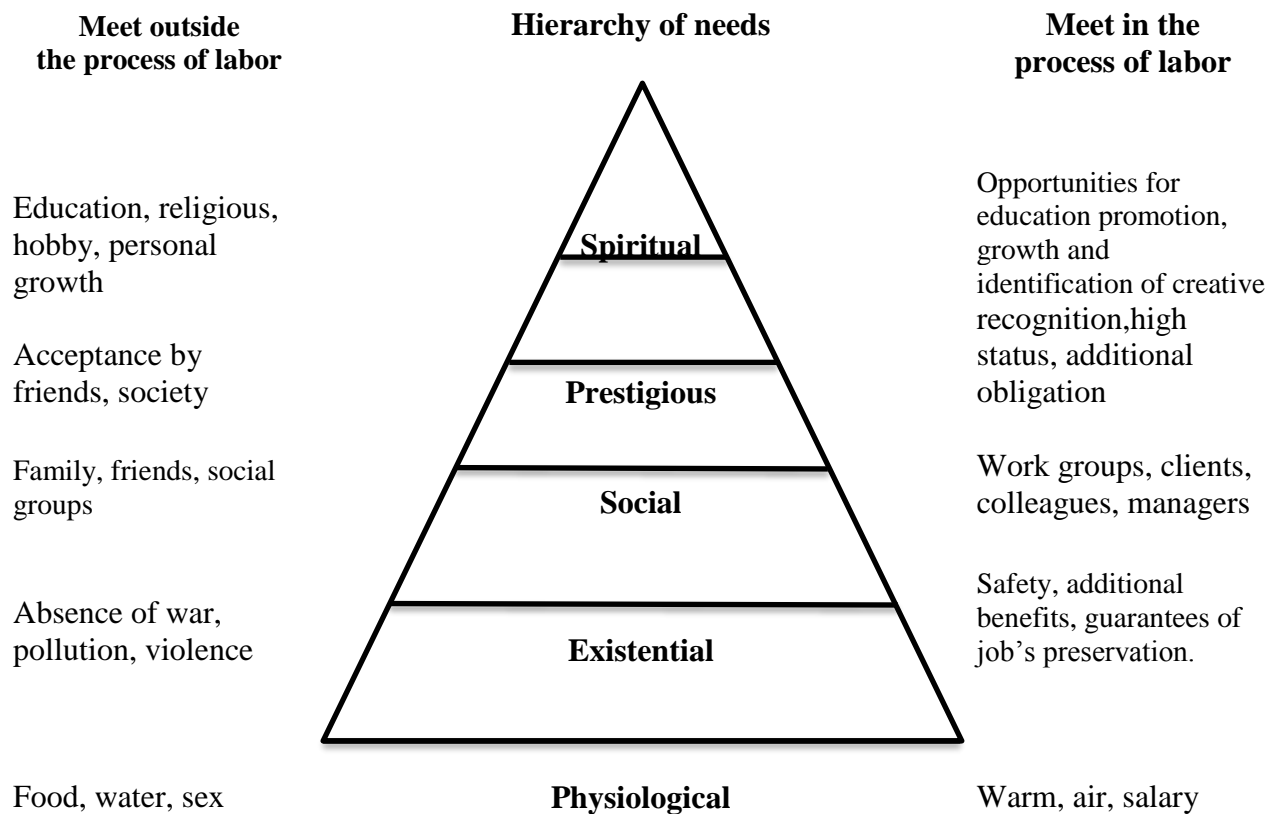


Figure 2.10 – Hierarchy of Needs by Maslow A.

Placing the need in a form of strict hierarchic structure, Maslow showed that lower levels of needs (physiological and safety needs) require priority pleasure. Before the need of the next level is the most powerful determinant of person's conduct, the need of lower level must be satisfied (and not necessarily entirely). Manager has to keep an eye on employees to determine which active needs move them.

Lack of theory lies down that the fact is not proved, according to which satisfaction of any need causes to automatic attraction need of the next level. In addition, the theory does not take into account individual differences of people.

In the second half of the 50's Frederick Herzberg developed another model of motivation, so-called **Herzberg's two-factor model**. F. Herzberg distinguished two groups of factors that influence people's behavior.

Hygienic factors: working conditions, social relationships, leadership style organization, reward, social and psychological climate at the enterprise. Positive display of factors gives the only absence of people's work displeasure.

Factors of motivation: work as a value in itself, sense of responsibility, opportunity improvement. In a case of positive display enjoyment of work appears.

Herzberg's theory of motivation has much in common with the theory of Maslow (Fig. 2.10). Herzberg's hygienic factors fit the physiological needs, needs for security and confidence in the future. Motivational factors can be compared with the needs of Maslow's higher levels. But at one point these two theories diverge sharply. Maslow considered hygiene factors to be something that causes this or that course of behaviour. If the manager gives worker a chance to meet one of these needs, the worker in response to this will work better. Herzberg, conversely, believes that the employee begins to pay attention to hygienic factors only in that case when he considers their realization to be inadequate or unfair.

David McClelland in his motivational theory distinguished **three levels of the needs:**

1. Need for power - is the desire to influence on others. People with power need do not necessarily rush to power, it's not careerists in a negative meaning of this word.

2. The need for success. It isn't satisfied by anybody's proclamation of success, but by the process of bringing the work to the successful conclusion. People with the highly developed need for success moderately run a risk, they like situations in which they can take personal responsibility for finding the solution of a problem and want their achievements to be quite encouraged.
3. The need for involvement. It means that people are interested in the company of friends, maintaining friendships, helping others. Managers should maintain an atmosphere that does not limit the interpersonal relationships and contacts. People with the developed need of involvement are to be attached to such work, which will give them great opportunities for social communication.

The procedural theories are based on the people's behaviour according to their perception and cognition. In procedural theories is analyzed how a person distributes the efforts for achievement of different goals and how to choose a specific type of behavior. Behavior is determined not only by individual needs but also by a function of perception and expectations related to this situation and possible consequences of the selected type of behavior.

The theory of expectations is associated with the works of **Victor Vroom** where the main idea consists in a fact, that one hopes (*expects*) that the chosen type of behavior will lead to meeting his needs. *Waiting* – estimation by individual the possibility of this event. The theory emphasizes the importance of the three relationships (and corresponding expectations):

- labour costs (worker's efforts) - results (*expectation that efforts will give the desired results*);
- results - reward (*expectation that the outcome will lead to the expected reward*);
- valence (*alleged relative degree of meeting or displeasure that arises as a result of the particular reward*).

Vroom's model can be illustrated in the following way:

$$\text{Motivation} = \mathbf{3} \rightarrow \mathbf{P} \cdot \times \mathbf{P} \rightarrow \mathbf{B} \times \text{valence}$$

Management should compare the proposed reward with the needs of employees and bring them in accordance. For effective motivation manager must establish a firm correlation between achieved results and reward. It is necessary to give a reward only for their effective work. Also, the manager must form the high but realistic expectation level of results from their subordinates.

A Theory of justice examines the conception of co-workers of organization about the level of objectivity management valuation of their labor input compared to other employees (by Stacy Adams). Theory suggests that when evaluating an individual award and achieved the results in the process of work, the co-workers of organization aspire to the social equality. If the balance is broken, the employee has a feeling of injustice. In this case the need of correction this injustice can be appeared. If an individual feels the injustice he has internal differences that lead to the achieving balance. A skilled manager always strives his staff to perceive his decisions as just. Otherwise, the motivation of employees to work substantially reduced.

L. Porter and E. Louler developed *a complex theory of motivation*. Their model featured five variables: spent efforts, perception, results, reward, meeting level (Fig 2.11).

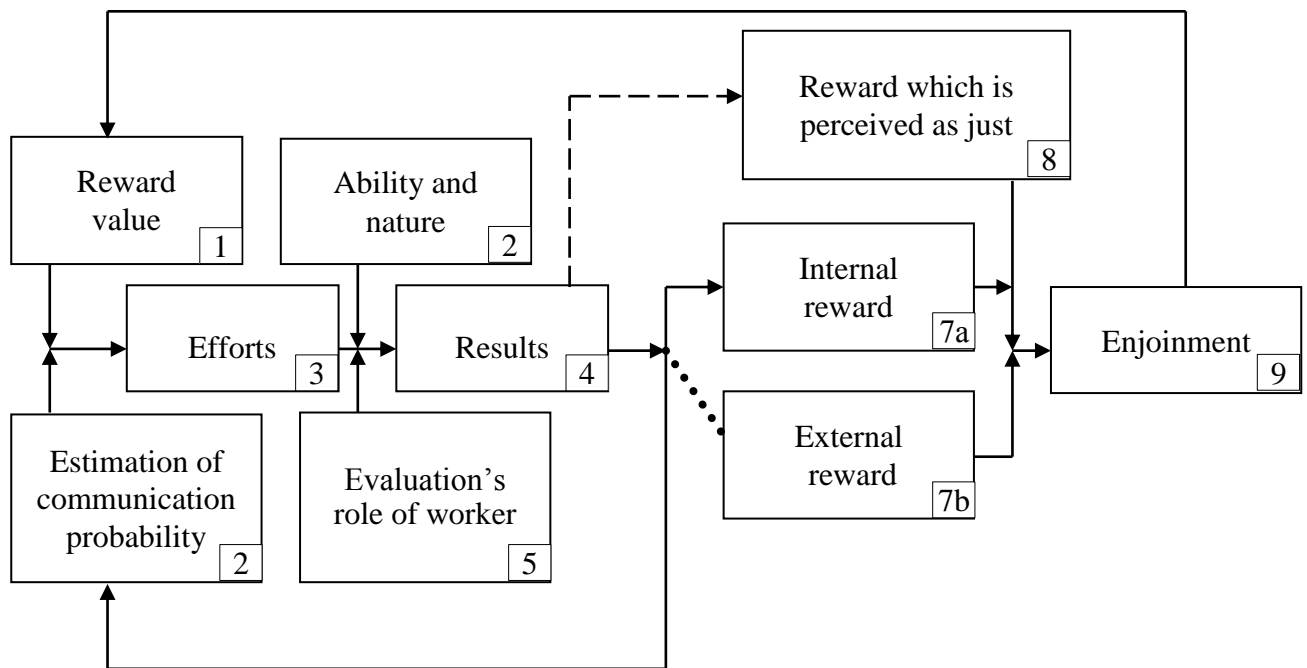


Figure 2.11 – Porter Louler’s Model

According to Porter Louler’s model results achieved by the employee depend on three variables: the spent efforts (3), abilities and characteristics of person (4), and also on his awareness the role in the process of labor (5). The level of spent efforts in its place depends on the value of reward (1) and the way a person believes in the existence of a strong link between efforts costs and possible reward (2). Achieving the required level of effectiveness (6) can cause internal rewards (7a), such as a sense of enjoyment of done work, a sense of competence and self-esteem, and external rewards (7b), such as leader’s prize, reward and promotion. Dotted line between re-effective and external reward means that there may be communication between the effectiveness of any employee and reward that he receives. Dotted line between the effectiveness and reward, which is perceived as fair (8), used to show that, under the theory of justice, people have their own assessment of the degree of equitable reward provided for certain results.

An enjoiment (9) - is the result of external and internal rewards with their justice (8). An enjoiment is a measure of how much really valuable consideration (1). This evaluation will influence the person’s perceptions of future situations. One of the most important *conclusions* of Porter and Louler consists in that fact that *the effective work lead to the enjoiment*.

2.5. Control function

Control is the process of achieving of their goals by the organization. It is observation and verification system of the accordance of a managed subsystem decision and to develop specific actions. Process control consists of setting standards, measuring actual results and a correction in the event that the achieved results differ significantly from established standards.

The function of control is an attribute of management which can detect problems and adjust according to the organization activity before these problems escalate the crisis.

There are three main **types of control**, according to the form of realization all these types are similar, because they have the same goal: to promote that actually received the results last were as close to the necessary. They differ only by time implementation.

Let’s examine the types of control in details (Fig. 2.12).

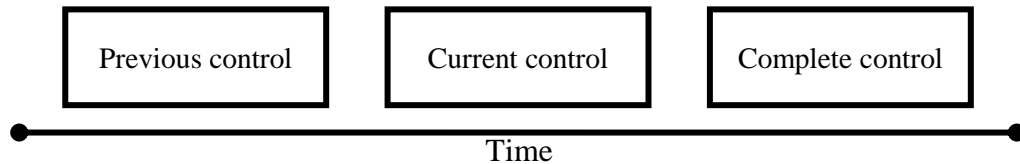


Figure 2.12 – Control Types

PREVIOUS control is carried out before the actual work.

CURRENT control is done directly during the work, when the controller sets the *feedback*, i.e. receives data about the performance.

COMPLETE control has two functions: first, provides management information for planning similar operations in the future, and secondly, promotes motivation, because the results allow to predict the size of awards.

Control process has **three stages**: development of standards and criteria, comparing them with actual results and taking the necessary corrective actions.

The main characteristics of effective control are: *timeliness, flexibility, simplicity, economy*.

Recommendations for the effective control:

- 1) establishes meaningful standards that employees can take;
- 2) install two-way communication;
- 3) avoid excessive control;
- 4) set a solid, but attainable standards;
- 5) reward for achieving the standard.

2.6. Communication and management decision

Communication process is *exchange of information between two or more people*. The main purpose of the process is understanding the information which is the subject of exchange, i.e. messages.

There are *communications between the organization and external environment and communications within the organization*.

There are several types of *communications within the organization*:

- Horizontal communications (between departments, between colleagues).
- Vertical Communications ("leader – subordinate", between a manager and working group).
- Informal communications are the channel of spreading rumors.

In the process of information exchange into four basic elements are distinguished: sender, message, channel and receiver.

Stages of communication process include: birth of the idea, coding and channel selection, transmission and decoding of the messages.

In the process of information exchange some **interpersonal communication barriers** can appear, which include: interferences caused by perception, semantic barriers, non-verbal interferences, poor feedback (Fig. 2.13).

The main **ways to overcome interpersonal communication barriers**:

1. Make clear their ideas before their transformation.
2. Be receptive to potential semantic problems. Use only exact words.
3. Follow the language of your own poses, gestures and intonation.
4. Express empathy and openness.
5. Try to install the feedback - ask questions.

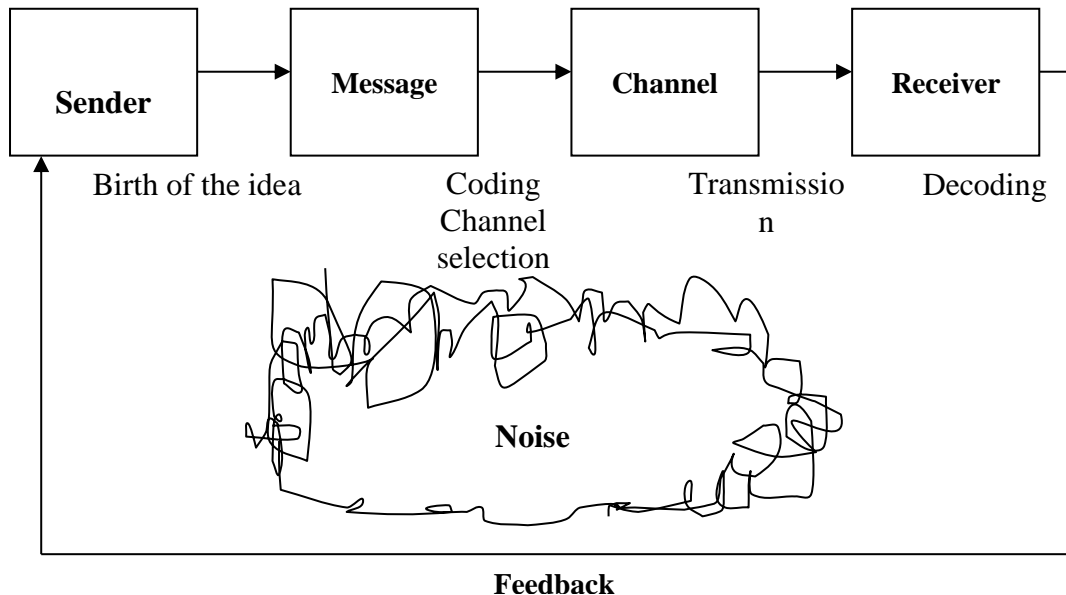


Figure 2.13 – Scheme of the communication process

Let's examine **organizational communication barriers**. They include: distortion of messages (during circulation of the information within the organization, up and down), information overload, poor organizational structure.

Ways to overcome organizational communication barriers.

1. Control of informational flows.
2. Administrative actions.
3. Feedback system.
4. System of proposal's acquisition
5. Modern information technology.

Management decision is prerogative and manager appointment. Assuming that the result of manager's work is solution itself, we can write simple formula:

effectiveness management decision = effectiveness of manager's work

The relationship between law and considered the main categories of management so you can display in such a way:

The decision is a choice of alternative. The responsibility for making important organizational decisions is a heavy moral burden, the higher level of control, the more burden.

Management (organizational) decision is a choice which should make the manager to perform duties due to the position he occupies. The purpose of organizing solution is providing motion to set tasks before the organization. Therefore, the most effective organizational decision is the choice, which will *actually implement* and make the greatest contribution to achieving the ultimate goal.

The process of acceptance of effectiveness management solution has a cyclical nature. It begins with a display of parameters discrepancy of planned objectives and standards and ends with the adoption and implementation decisions which should eliminate this discrepancy.

The main element of every acceptance decision process is **the problem** which is meant to be *discrepancy of actual state of ruled object with desired or given i.e. purpose, result of activity*. Troubleshooting is cyclical process, because we are talking about an infinite sequence of steps. Management is concerned not so much the decision as such, but about everything related and arising from this decision. The essence of management decision is making action to eliminate the problem. The process solution can be represented ideally as five stages (Fig. 2.14).

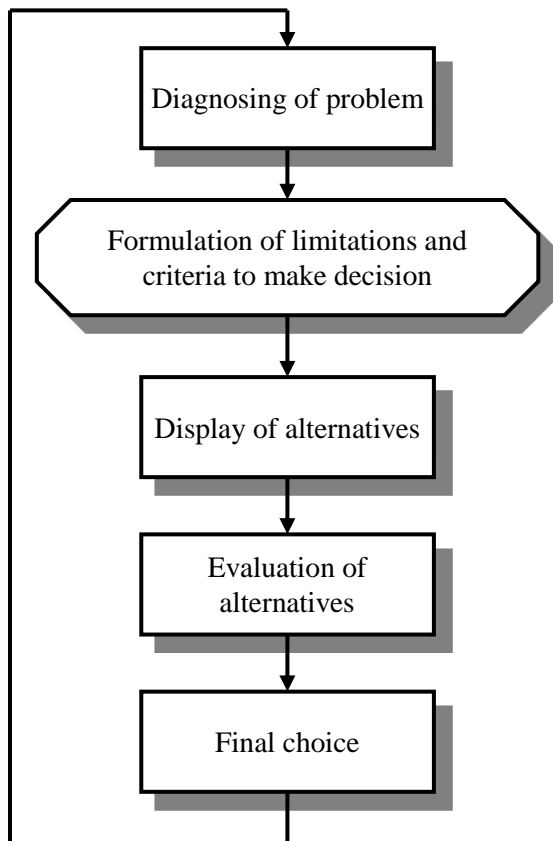


Figure 2.14 – Scheme of adoption of the administrative decision

Let's examine each of the stages. At the stage of diagnosis of the problem is the finding statement of fact and hereby the diagnosis process overcomes conventionally two phases. The first phase in diagnosing of complex problems is awareness of the symptoms of difficulty setting or capabilities. Identifying symptoms helps identify the problem in general. It also contributes to reducing the number of factors which should be taken into account in relation to governance. However, just as a headache may be a symptom of fatigue or brain tumor, total symptom, for example, low profitability, is also attributed to many factors. Therefore, as a rule, should avoid immediate action to eliminate the symptoms, which are prone to some leaders. The manager should penetrate deeply into the essence to identify the causes of inefficiency.

Phase II - search and analysis of relevant information. To identify causes of problem, it is necessary to collect and analyze this information.

Relevant information (from the English. *relevant* - essential) - is data which have attitude only to a specific problem, person, purpose and time period.

Such information can be collected based on formal methods using, for example, market analysis is outside the organization, a computer analysis of financial statements, interview, invitation management consultants, or poll workers are inside it.

The second phase is the **formulation of constraints and decision criteria**. Restrictions vary and depend on specific situations and leaders. Some general limitations include: inadequate facilities, lack of workers with requisite qualifications and experience, inability to procure resources at affordable prices, demand for new technology and so on. In addition to the restrictions standards for assessing the choice is defined, so called decision making criteria. This criterion may be the value criterion - no more expensive than the designated amount, for example, or profitability, aesthetisity etc.

At the stage of **identifying alternatives** and their determination involves their evaluation.

In reality, manager rarely has the opportunity to evaluate each alternative, moreover, the greater choice, the harder it is done. Thus, it is necessary to reduce the number of alternatives to the required minimum.

It is necessary to have standard **for the assessment** of alternatives by which to measure all probable outcomes of each possible alternative. Such standards are called decision criteria which must be installed in step 2.

If the problem was correctly diagnosed, alternative solutions are carefully weighed and evaluated, to make **choice of an alternative**, means to accept decision, would be relatively easy. Chosen for the alternative with the most favorable overall results

Factors that affect the management decision include: personal manager assessments, the decision environment, information limitations, behavioral restrictions, negative consequences, interdependent of decisions.

2.7. Authority essence and forms. The law of power

Authority is opportunity to affect the behavior of others. Regarding management **leadership (influence)** - is the ability to influence individuals and groups to direct their efforts to achieve organizational goals.

The balance of authority, which is shown in Fig. 2.15 shows that any rebalancing causes unwanted consequences.

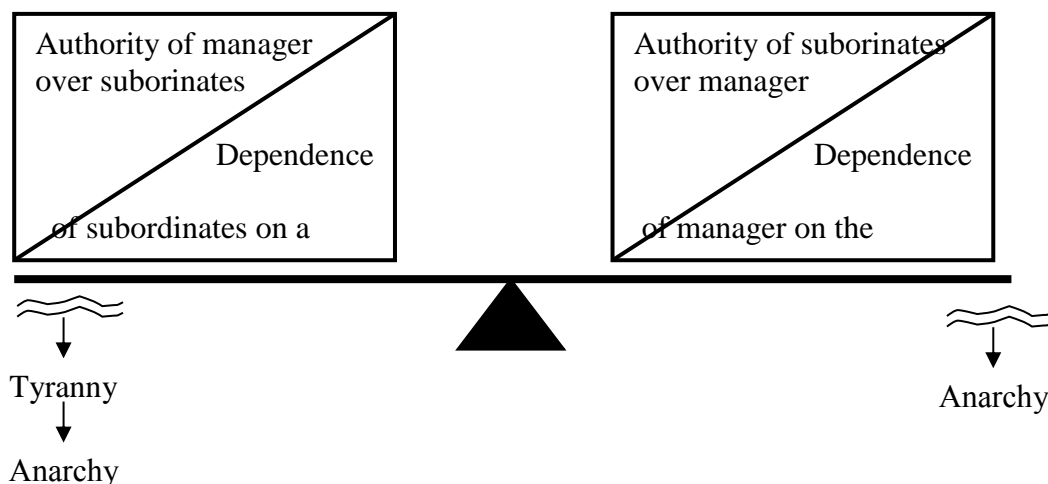


Figure 2.15 – Balance of power

Typically, the supervisor has authority over subordinates, because the latter depend on him in such issues as wage increases, tasks of working, promotion, empowerment, social needs etc. However, in some situations, subordinates have authority over the managers, because the latter depends on them in such areas as needed information for decision-making, informal contacts with people in other departments whose assistance is necessary for the manager, the impact which subordinates can have on their colleagues and finally, the ability of employees to perform tasks.

Subject of authority in an organization is the leader who gives orders and who has the appropriate rights and remedies. The object of authority is the employee who is subject to, and executes instructions of the head.

Authorities may take various forms. U.S. scientists, including French and Reyven, distinguish these forms of authority: *authority which is based on coercion*, *authority which is based on compensation*; *expert authority* (based on special knowledge which others do not have) *reference authority* or *example power*, which is called also the *authority of charisma*; *legal* or *traditional* (legitimate) power.

In addition to the forms of power, depending on the number of centers of decision making one distinguishes: *centralized authority* and *decentralized authority*.

2.8. Conflict management

The conflict is the relationship between the subjects of social interaction which is characterized by their confrontation on the basis of oppositely directed motives (needs, interests, goals, ideals, beliefs) or judgments (thoughts, opinions, ratings, etc).

Necessary and sufficient conditions of (offensive) conflict are presence of social interaction in the subjects of oppositely directed motives or judgments, and also state of confrontation between them. In other words, for the escalation of conflicts in a conflict situation are necessary: the *significance* of the situation for the participants of conflict interaction, the presence of *obstacles*, which creates one of the opponents on the way to achieve the objectives of other participants (even if it's subjective perception, not reality), personal *excess* or group *tolerance* for obstacles which arose at least in one of the parties.

Conflict management is a purposeful impact to eliminate (minimize) the reasons which gave rise to conflict, or correct the behavior of the conflict.

All methods of management conflict may be represented in the form of several groups, each of them has own sphere of use. Let's examine each group of methods.

1. *An intrapersonal methods* are the ability to organize their own behavior, correctly express their views without causing the protective response from the other person.

2 *Structural methods*, i.e. methods of influence mainly on organizational conflicts arising due to improper distribution of authority and organization of work, adopted a system stimulation, etc. These methods include: clarification of requirements to work, coordination and integration mechanisms organizational purposes, using of reward systems.

3. *Interpersonal methods*. When creating a conflict situation or at the very beginning of the conflict the participants should select the form, style of the future behavior to it in the slightest effect on their interest.

One distinguishes the following five basic styles of behavior in conflict situations: smoothing, avoiding, forcing, problem solving, compromise.

Styles of avoidance and smoothing do not suggest the active use of confrontation in dealing with conflict.

It is necessary to have solution processing in solving the problem and persuading confrontation. In evasion and smooth, conflict solution is postponed, and the conflict turns into a hidden form. Compromise may help partially resolve conflict interaction, because there is a pretty large area of concessions but reasons are not eliminated.

4 *Negotiation* as one type of business dialogue covers many areas of the individual. As a method of conflict negotiation is *a set of tactics aimed at finding mutually acceptable solutions to the conflicting parties*.

2.9. Organizational changes

Changes are an issue which applies to all organizations. Changes within the organization, as a rule, are a reaction to changes in the external environment. It is interdependent changes of organizational structure, products, technology, personnel, office rules, policies, etc.

Changes lead to innovations which most often cause:

- evaluating and changing goals of the organization;
- changing of the structure, i.e. the distribution of powers;
- changing technology, processes, designs products;
- modification (changing opportunities or conduct) the workers;
- changing the organization of production and economic activity.

Aim. For the survival of organization management should periodically estimate and change their purpose according to environmental changes and the organization itself. Modification of purpose is necessary even for successful organizations, even as the current goal has already achieved.

Structure. Structural changes as part of the organizational process relates to changes in the distribution of authority and responsibility, coordination and integration of mechanisms, in the allocation of departments, in the governmental hierarchy, committees and degree of centralization. Structural changes is one of the most common and visible form of changes in the organization. They are the real need in case of significant purpose or strategy of the organization.

Technology and objectives. Changes in the closely related variables - technology and problems - related to the changes of process and schedule of tasks, introduction of new equipment or methods, standards and changes of work's nature..

As structural changes, technological changes often destroy social stereotypes, causing a revision of plans. Changes in technology may cause a modification of the structure and workforce.

People. Changes in people allow modification of facilities or personnel conduct of the organization. This may include technical training, training in interpersonal or group communication, motivation, evaluation of the quality of work, training management, group formation. It is particularly difficult to undertake effective changes in the human factor, because any change causes fear of possible discontent of needs.

American scientist Greyner developed *model of organizational change management*. Six stages of the model describing, on the one hand, the impact on governance structure (bodies), on the other hand is the reaction of authorities to this effect and the development of a particular response.

Stage 1 Pressure and encouragement

Stage 2: Mediation and refocusing attention

Stage 3 Diagnosis and awareness

Stage 4: Finding new solutions and determination the duties of his execution

Stage 5 Experiment and detection

Resistance of change is an inevitable phenomenon, but it is necessary to overcome the resistance for making some innovation.

People resist change for the main reasons as: the uncertainty of the situation, feeling their possible losses, the belief that changes do not bring anything good, expectations of negative consequences, the belief that the organization for this change is not necessary. People often assume that changes will not solve problems but only create new ones.

Methods of overcoming resistance:

1. Formation and transmission of information i.e. open discussion of ideas and activities which help employees to be sure in necessary changes.
2. Involvement of subordinates in decision making makes it possible for some employees who resist, freely express their attitudes to these innovations, their potential problems.
3. Emotional support with help of means when employees more easily fit into new circumstances. For example, the head carefully listens to the employees and agrees with the need to improve the skills of employees so they can adapt to new requirements.
4. Negotiations for innovations approval involve "buying of" the consent of employees who resist with the help of means of material incentives.
5. Co-optation means granting a person, who may resist changes, a leading role in making decisions about innovation.
6. Maneuvering to reduce resistance to changes and obtaining consent, which may include, for example, granting of selective information.
7. Coercion with the help of threats of dismissal, termination of promotion, inhibition of growth of wages, etc.

With the reorganization and restructuring it is necessary to analyze always the economic feasibility of these measures, i.e. how organizational changes can have influence on indicators of effectiveness of company: profit, turnover, cost of equity, market share and so on.

2.10. Management ethics and corporate social responsibility

Ethics is a set of moral principles and values which control the behavior of a person or group of people and which determines the positive and negative evaluations of their thoughts and actions. Ethics linked to internal values, and they in turn are part of corporate culture and influence decisions, determine their admissibility in the social environment. Ethical problem occurs when the actions of individuals or organizations can harm or, conversely, benefit others.

Organizational values are important for the company. Culture of the organization is not the only source of influence on ethics in the company, but it is the most powerful of forces that determine the values of the company. Others include; adopted rules in the companies and policies, reward systems, the degree of concern about their members, selection system, compliance with principles of labor legislation and professional requirements, leadership and decision making.

Social responsibility involves the obligation of management to make decisions and implement measures which increase welfare and the interests of both society and companies.

Overall corporate social responsibility can be represented as follows (Fig. 2.16).

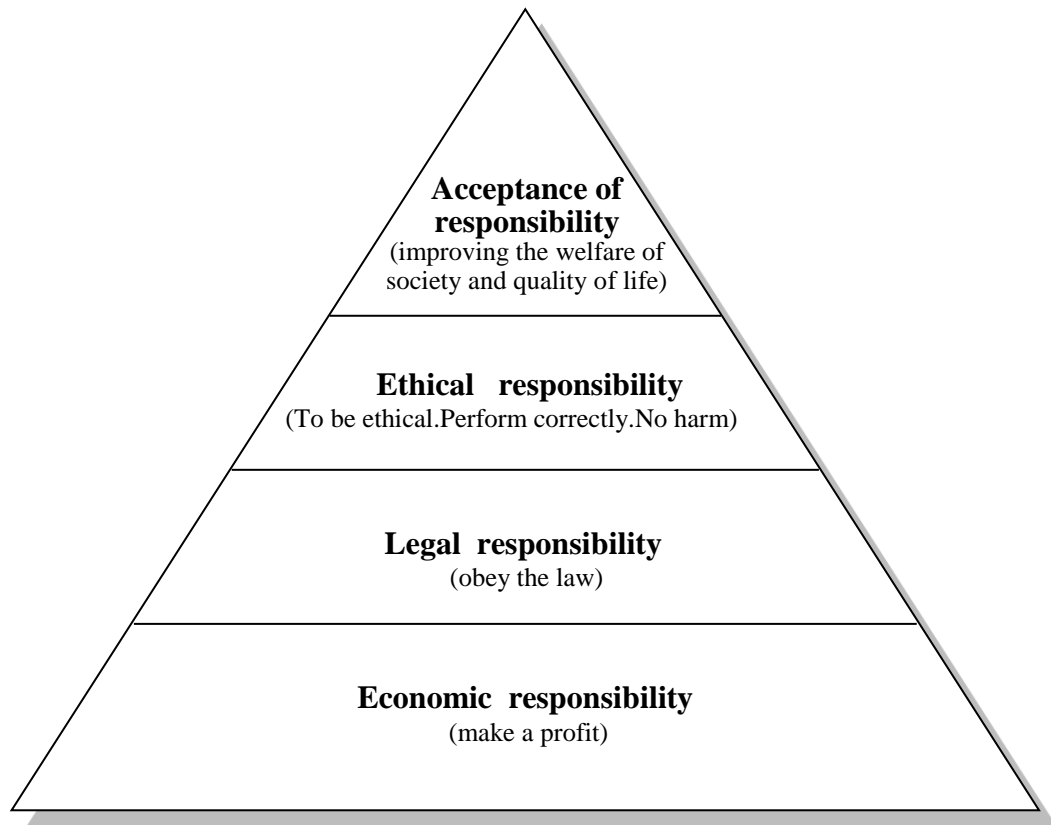


Figure 2.16 – Overall social responsibility of the company

The first criterion of the evaluation of the company is economic responsibility. Commercial organization is primarily responsible for the production of necessary public goods and services and profit-maximizing shareholders.

Legal liability caused by the necessity for the organization to adhere the established rules by society, economic goals within the law.

Ethical responsible behavior means useful actions which are not covered by laws or not fit their direct economic interests.

Assuming responsibility for the company is only voluntary characters and associated with the company's desire to contribute for the development of society for what it does not bind or economic motives, neither law nor ethics. Today many of the leading companies understand that their results are measured not only by financial indicators. Honesty and trust are important to maintain a successful, profitable business. In the short term, socially useful activity possibly associated with additional costs, but not causing damage to the organization. Instead, managers and their companies can contribute to improving society, and simultaneously achieve greater economic indicators.

Questions for self-check:

1. What should be understood by the term “management”?
2. How can the terms “governance” and “management” be compared?
3. Who is the “manager”, what is his purpose?
4. Discover the essence of management work.
5. List the functions of management, enlarge of their content.
6. Comment of the concept of “management method”. What management techniques can be distinguished in the science of management, what is the purpose of each?

7. Name the main representatives of the school of scientific management and administrative school? What is their main contribution to the development of the schools of management thought?
8. Describe the essence of the planning function.
9. On which level is appointment of organization planning going on?
10. What kinds of planning can you name? Describe briefly each of them.
11. What is the organization? Provide examples of formal and informal organization.
12. What are the components of internal and external environment of organization?
13. What is the structure of organization, what elements does it contain, what is its purpose?
14. What structures do you know? How do they relate to each other, which advantages and disadvantages do they have?
15. Characterize the function of motivation. What kinds of needs does it have, what is the role of reward in the process of motivation?
16. What approaches can be distinguished in motivation?
17. Describe Maslow's pyramid of needs. What needs in your opinion are the most important to anyone?
18. What is the difference between procedural motivation theories?
19. Explain the essence of the "controlling" function. What is its purpose?
20. Give characteristics of three levels of control.
21. What phases does the control process include? What are the features of each?
22. What criteria must the control on organization meet in order to be effective?
23. Discover the essence of the communication process, which stages and elements does it contain?
24. Identify the interpersonal communication barriers. Why do they appear?
25. Define the administrative decision. What and for what purpose makes it?
26. Describe the cycle of management decision. What should be done at each stage?
27. What forms of government do you know? How do they differ from one another?
28. Methods of conflict management.
29. What causes organization changes? What changes in organization?
30. What is the role of people in the process of organizational changes? What methods can you offer to facilitate the process of innovation?

CHAPTER 3. PERSONNEL MANAGEMENT

Objective: efficient formation of competences in the field of human resource management, efficient use of personnel.

Subject: specific and general laws of formation, functioning and development of staff.

Content modules: Personnel Management as a social system. Labour resources, manpower, personnel organization. Man as object of personnel management.

Human Resources policy organization. Service of personnel, their types and functions. Workforce planning. Release of staff turnover, the size optimization. Profession, specialization, position. Career guidance. Recruitment, hiring, labor adaptation. Assessment and certification of personnel. Career management. Development of personnel, formation of the leaders reserve.

3.1. Personnel Management as a social system

Personnel management - this is the direction in science, history of which has several decades. If you talk about management as about art, it most applies to personnel management. Because each worker has its own character, its system of values and motivations to work. The emergence of the subject "HR" primarily related to the need for new governance in which all the classical management functions integrated around the human factor, forming an effective management process.

Personnel management - a process of systematic, subsequently organized, with the interconnected economic-and social-psychological control mechanisms, the impact on employees in the organization to ensure effective functioning of the whole and the needs of employees in each of his professional and personal development.

According to the functional approach of personnel management can be described as a set of functions shown in Fig. 3.1.

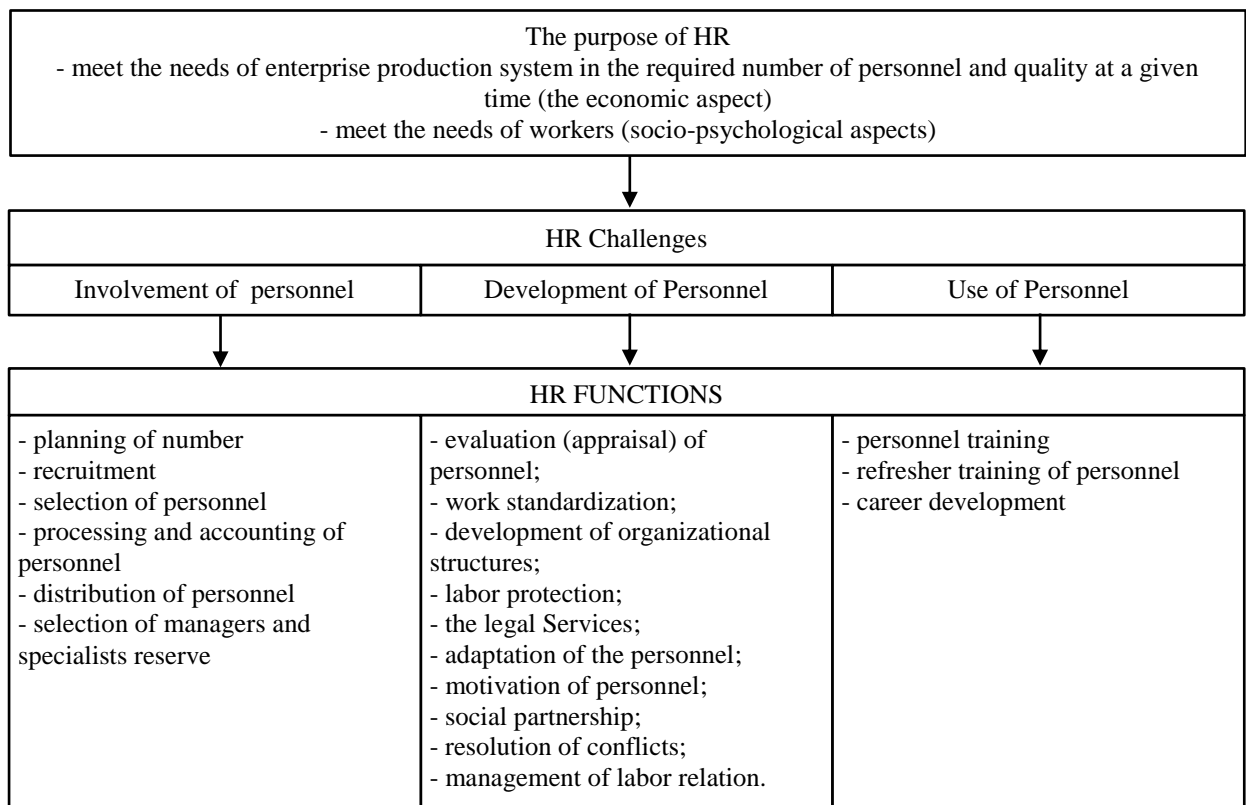


Figure 3.1 – Subordination of functions to the objects and the purpose of personnel management

The purpose of human resource management has double-level character and can be divided into three tasks (involving, use and development of the personnel), group of the functions of

personnel management corresponds to each of them, under which should be understood any activity in the field of personnel management.

Summarizing of the domestic and foreign organizations experience gives the opportunity to form the main goal of personnel management - staffing, organization of their using, their professional and personal development. According to this goal the system of personnel management organization is formed.

Personnel Management System requires the formation of goals, functions, organizational structure, personnel management, vertical and horizontal functional relations between managers and specialists in development, adoption and implementation of management decisions.

It should also be noted that management – is the process, and management system – is the mechanism that ensures the process. Therefore, management system can be represented in such a way (Fig. 3.2).

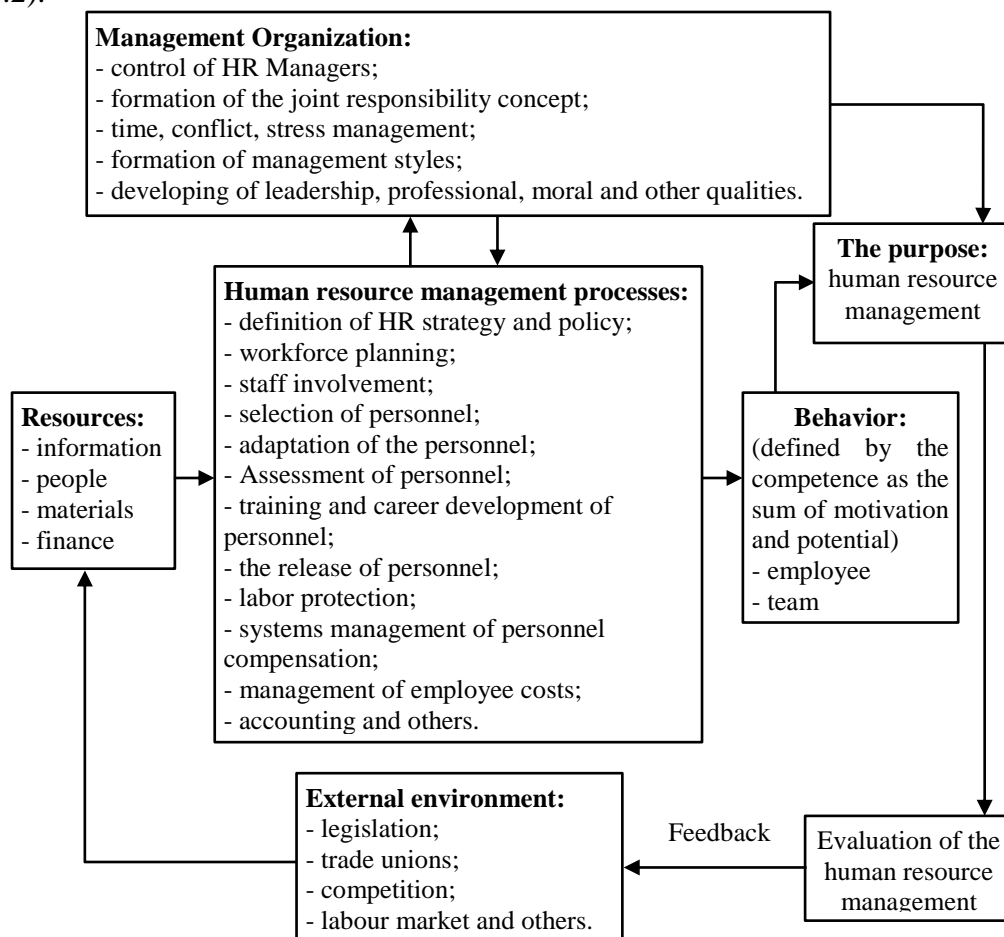


Figure 3.2 – Schematic model of personnel management system

Processor (mechanism) of the system consists of people (professionals in work with personnel), between whom the responsibilities and the channels of relationships are shared, processes and actions performed by these employees. The main inputs in this system are human resources and relevant information, for example, needs a new employee while taking him on a certain job. Outputs are the results of the system work: the main *intermediate results* can be considered the behavior of employees, *the end result* - the efficiency of the organization work.

The process of the human resource management has a *cyclical nature*: the fulfillment of the goal is constantly evaluated and corrected by the leaders and employees; feedback closes the cycle, returning the process to its beginning - the stage of replenishment of the resources into the system.

The mechanism of human resource management, shown in Fig. 2.3 as a set of interrelated processes of personnel management (establishing of HR strategy, planning of personnel, staff involvement, selection of personnel, assessment of personnel, career management of personnel, the definition of wages policy and social services, the management of costs for the personnel and personnel management and others), run by competent professionals.

The senior management monitors their work, whose role in personnel management is growing in the world. Active participation of the line managers in these areas will significantly increase the quality of the work with the employees. Setting goals and evaluating of the staff functions performance should be carried out by all members, which require the development of communication processes in the organization.

The existence of line and functional managers in the organization include the potential conflict in their relationship. The contradictions between them and the attempts to resolve it reflected in the *concept of dual or joint responsibility* - the concept of interaction between personnel managers and line managers, according to which they have common responsibilities for the efficient use of human resources.

In the given model of human resource management the initial role is given to the planning function, which has the deductive nature: first the general goal is defined, then the requirements to the personnel conduct are formed needed for goal achievement, then the appropriate technology and structure are designed that organize the operations of human resource management (Fig. 3.2: the listed steps are performed from right to left).

Quantitative evaluation of the human resource management service involves usage of "efficiency", which in general is a characteristic of the flow of any process and expresses its economic, social, environmental and other impact or degree of achievement of the goal. Since the aim is the socio-economic category, then the efficiency should be treated similarly. The essence of efficiency as an economic category is in terms of production relations among the participants about the creation of its results with minimum work.

Economic efficiency in the personnel management is determined by achieving of the enterprise objectives (produce goods and services) by the optimum use of employees on the basis of economic costs of limited means.

Concept of "social efficiency" in the HR can be expressed as the development of labor potential of the enterprise. Social efficiency is realized in the form of expectations, needs and interests of employees.

3.2. The notion and essence of personnel

Personnel (from Lat. personalis - personal) - private complement of the organization, which is employed and has some competence, combining ability and motivation of each employee and describe its behavior within the organization.

At the macroeconomic level, the term "*human resources*" is often used, which is seen as an economic category, which definition comes from the idea that working is as productive resources as land, materials, finance and others. The term "human resources" is a differential characteristic (from the point of division of labor), which allows select groups and subgroups of employees as individual-specific objects and establish relationships of these objects with the structure of the organization.

At the macro level the term "*labour resources*" is also used, which means part of the country population that owns the totality of physical and spiritual abilities and can participate in the labor process. Labour resources characterize the number of the working population and are an important element of economic potential. According to the methodology adopted in Ukraine, criteria of inclusion to the labour resources are beyond working age: 16-59 years for men, 16-54 years for women. The specified population within working age is included into the human resources of the country, and also some other people, who are older and younger for healthy age, are actually employed in the national agriculture (employed students, pensioners).

Labour resources are divided into *active* (those, who are directly involved into the social production, economically active population) and *potential* (students who are employed in the household). They are characterized by the feature such as employment.

Employment as an economic category is an activity of working population with producing of a social product. Completeness of the employment is counted according to the economically active population. The labor status of the economically active population is quantitatively calculated by the number of working days for some period of time.

In the modern science of personnel management the integral characteristics of employees capacity are used, the main of which include: workforce, employment capacity, human capital.

Labor force is an integral characteristic of the employees' capacity that reflects a person's ability to work, i.e. the aggregate of his physical and intellectual characteristics that can be used in the organization.

Labor capacity of an employee – is a set of human characteristics, which appeared from the material and spiritual investment in it: intelligence, creativity, health, education, professionalism, ethics, activity, organization.

Human capital of an organization is a labour capacity of a person, implemented in the process of work. The basis of evaluation of the "human capital" is based on accounting of the costs incurred by the person and / or organization for the formation of labor capacity. In this sense, "human capital" reflects the extent of human labor potential values for both himself (as the answer to the question: "How much income can be provided by my personal" human capital "), and for the organization (in the form of answers to questions: "What is, in quantitative terms, the value of the worker for the production?")

Human capital is a market category that is the reflection of the human abilities that find demand on the labor market.

Consider further the basic concepts and definitions relating to personnel at the organization: its quantity and species; variability, circulation, or employee turnover (describing the movement of personnel), structural characteristics (category, specialty, profession, qualification, competence).

The main quantitative characteristic of the personnel is its number.

Number of employees is determined by the character, scale, complexity, labor intensive production processes, the degree of mechanization, automation and computerization. These factors define its *official (planned)* value, which in practice almost always fails to provide. Therefore, staff is characterized more objectively by the *accounting (actual)* number, i.e. number of employees who work officially in the organization at this time.

Three categories of workers are distinguished in the accounting (actual) number: *permanent* (accepted by the organization without term limitation or for a period longer than one year by the contract), *temporary* (accepted for up to two months and temporarily for replacing of a missing person - up to 4 months), *seasonal* (accepted for work that is seasonal, for up to 6 months).

External workers, people who are invited for one-time and special works, people, sent for learning with isolation from the production and those who receive scholarships at the expense of the organization and some others are not subjects for registration.

Accounting number of personnel is daily included in the *scheduled records*, which must include all employees - both present at work and those, who are missing of those or other reasons. Since not all employees (because of some reasons) are daily at the work place, the true number of personnel for the moment is characterized by its *present number*.

In fact, personnel is not something stable: it is in constant movement as a result of hiring and firing of some workers. The restoration of the team in result of the departure and the arrival of new members is called *variability (traffic)* of personnel. The disposal may occur due to objective and subjective reasons, including: biological (worsening of health), production (reduction of staff because of the complex mechanization and automation), social (retirement age), personal (family reasons), state (military draft).

The degree of personnel mobility is caused by the following factors:

- the necessity to change the work caused by, for example, dissatisfaction by wages, conditions and mode of work;
- the wish of a new job that provides better living and work conditions;
- easy adaptation to new conditions, caused by the related costs, qualifications, experience and age;
- knowledge about the vacancies and their degree of probability.

The work efficiency of a mobile team is lower than of the stable one because of the lack of permanent regulations, required mutual demands, and unpredictable reactions to administrative influence.

Statistics characterizes the movement of personnel using relative and absolute indicators of turnover fluidity. Absolute characteristics of the personnel movement is turnover by reception and turnover by disposal.

Turnover by reception is a number of people enrolled for a job after graduation, according to organization acceptance, in order of transfer from other organizations, as apportioned by direction of employment organization, at the invitation of the organization, as well as those who are manufacturing practice.

Turnover by disposal is characterized by the quantity of people who retired from the organization for the given period, grouped by causes of dismissing. Depending on these reasons, it can be *necessary* and *unnecessary*. The last one is known as *employee turnover*.

The required turnover by disposal has objective reasons: the legal requirements (such as military service), social and demographic reasons (health, age).

Turnover is related to subjective reasons (dismissal at own request, release for violation of labor discipline). Usually it is typical for young people and after three years of work substantially reduces. It is considered that the normal employee turnover is up to 5% a year.

Movement of staff is shown in *the balance* that contains information about changing of the quantity and structure of the personnel.

A set of individual groups of workers forms the *structure* of personnel, or *the social structure of the organization*, which may be statistical and analytical.

Statistical structure reflects the distribution of personnel and its movement due to the categories and groups of posts.

Analytic structure is based on special investigations and calculations and is divided into general and specialized. According to the general structure staff is considered by factors such as work experience, education, profession, specialized structure the relationship between certain categories of workers (for example, "occupied on machining centers").

Optimality criterion of personnel structure is the compliance of workers quantity of different job groups to the work scope, peculiar to each work group, expressed in time wasting.

By the nature of labor functions staff is divided into workers and employees.

Occupation of one or another position requires having the appropriate qualifications and profession.

Under the **profession** is understood the kind of person's activity, who has complex of special theoretical knowledge and practical skills acquired as a result of special training and experience in this field. Profession is determined by the nature and content of work: one can say, for example, about the professions of managers, lawyers, economists, doctors.

A set of knowledge, skills and personal qualities that are necessary for a successful performance of professional duties by a person, was named professional suitability, which may be a potential and real. The first is based on makings, ability, physical and mental characteristics of a man; the second one is gradually acquired by learning new skills.

Within each profession as a result of division of labor *specialties* are distinguished, related to the implementation of a more narrow range of functions. For example, a specialty within the profession of manager will be administration within some sector (e.g. engineering), business management, management of goods and services, project management and others.

Experience and practice connect skills, knowledge and abilities together, forming the *qualification*, i.e. the degree of professional training required to perform certain labor functions. Qualification of an employee and qualification of work are distinguished. The first is a set of requirements to who should do the job, the second – is a set of accumulated by man professional qualities.

Qualification of employee is determined by factors such as level of general and special knowledge, work experience in this or a similar position, required mastering the profession. The

level of qualification of employees that can help to solve the challenges successfully may be called **competence**.

Measure of employee qualification is called *professional negligence*. It determines the worker's ability to carry out safely his functions under normal and extreme conditions, to learn successfully something new and adapt quickly to changing conditions.

The following types are distinguished:

- 1) *functional* competence, which is characterized by professional knowledge and ability to realize them;
- 2) *intellectual* competence, that is the capacity for analytical thinking and implementation of an integrated approach to their duties;
- 3) *situational* competence, which provides the ability to act according to the situation;
- 4) *social* competence requires a communication and integration skills, ability to maintain relationships and to influence, to pursue the desirable aim, to perceive and interpret other people's thoughts correctly, to express the attitude, to converse and others.

The claims to the professional competence depend largely on the level and nature of administration position. Today, the value of special knowledge and skills for senior executives was reduced, but the role of methodological and social skills in communication, management of employees, the ability to perceive and interpret information grows.

The basis of professional competence is a **professional suitability** – is a set of mental and physiological features of the person required for effective professional work.

However, the ability to perform the professional duties is not enough to achieve the goals of the organization, because no matter how qualified a worker is, his performance also depends on the willingness to work or *motivation to work*. Only the combination of a strong labor motivation and skills helps to achieve results. And vice versa: no matter how much a worker is motivated, he is unlikely to use the tools effectively without having the skills to work with them.

The *specificity of human resources* should be taken into account, which is that:

- 1) people have the intelligence, their reaction to the external influence (management) - emotional and meaningful rather than mechanical, and therefore the process of interaction between the organization and the employee is bilateral;
- 2) people are capable of continuous improvement and development. In the modern scientific and technological progress, when technology, along with the professional skills, expires within several years, the employees' ability to continuous improvement and development is the most important and lasting source of enhancing the effectiveness of any organization;
- 3) in modern society a person's labor life continues, 30-50 years, respectively, and human relations organizations can have long-term nature;
- 4) in contrast to the material and natural resources, people come (mostly) in the organization consciously, with defined goals and expects help (enabling) in implementing their goals. Satisfaction of employee by the interaction with the organization is as essential factor to continue this interaction, as the satisfaction of the organization;
- 5) the individual is unique. Unlike the two pieces of metal or kilowatt of electricity, there are no two identical people. Accordingly, the reaction of various members to the same management method can be quite different.

Thus we can conclude that one of the main ways to improve the efficiency of modern manufacturing is the disclosure of human potential, encouraging creative initiatives and social responsibility.

3.3. Personnel policy of organization

In terms of process approach the personnel management is realized through human resource strategies and personnel policies of the organization.

HR strategy - is determined, established set of methods and means of personnel management, rules and norms of behavior for all subjects of personnel management process that allows the organization to achieve more effectively long-term goals of its development under the existing conditions of the environment.

Personnel policy – is a system of impacts on the personnel of the organization from management, used in the course of a specified time, to implement the chosen HR strategy.

Therefore, personnel policy is - species concept for human resources strategy. It ensures the existence of the mechanism of influence on the staff within the established HR strategy methods and means within the time specified to achieve the objectives, which the organization faces.

The *main goal of personnel policy* is the timely provision with personnel of required quality and quantity.

The main directions of personnel policy are:

- defining the basic requirements for staff in light of forecasts of domestic and foreign situation, development prospects of the organization;
- formation of new structures and personnel development procedures, personnel management mechanisms;
- formulation of the concept of wages, material and moral stimulation of workers in terms of certain business strategies;
- choice of ways to attract, use, store and release of personnel, help in finding employment in the event of massive layoffs;
- development of social relations and so on.

The following kinds of personnel policy are distinguished: passive, reactive, preventive, active.

Passive personnel policy occurs in a situation when a clear action plan of management regarding personnel is missing, and personnel work represents the elimination of negative consequences. There is not forecast for the staffing work, facilities and personnel work evaluation, diagnosis of the personnel situation in general in such organization.

Reactive personnel policy. It provides control management by the symptoms of negative states in dealing with personnel, causes and current situation of crisis: the emergence of conflict situations, lack of enough skilled manpower to deal with routine tasks, lack of motivation for effective work. Company management is taking steps in localization of the crisis and focused on the discovery and understanding of the reasons that led to the staffing problems. Personnel services of such enterprises usually have the means of diagnosing the current situation and adequate emergency assistance.

Preventive personnel policy. In a real sense of the word policy arises only when management of a firm (company) has forecasts of the situation. However, the organization, which is characterized by preventive personnel policies, has no means to influence them. Recruitment of such enterprises has only means of diagnosis and prediction of staffing in the medium term. The main problem of such organizations is to develop targeted HR programs.

Active personnel policy. If management has not only prognosis but also the means of influencing the situation, and personnel service staff is able to develop anti-crisis program, constant monitoring of the situation and adjust program performance according to parameters of external and internal situation, we can speak of truly active policy.

But the mechanisms that management can use to analyze the situation can create rational (perceived) and irrational (which can't be described and algorithmic) grounds for the prediction and programs.

Accordingly, two subtypes of active personnel policy should be singled out: a rational and adventures.

In the case of a *rational personnel policy* the management has both qualitative diagnosis and prognosis of development of situation at its disposal, and the means to influence them. Recruitment service of the company has the means of not only staff diagnostic, but means for staffing

forecasting for the medium and longer term. The programs of the organization development have short, medium and long-term forecasts of demand for human resources (qualitative and quantitative). In addition, the program of work with staff with variants of its realization is part of the plan.

In the case of *adventures personnel policy* the management has no high-quality diagnosis, prognosis of the situation, but tries to influence it. Recruitment service of the company does not usually have prediction means of staffing situation and of personnel diagnostic, but the enterprise development program include plans of personnel work, often aimed at achieving the goals important to the development of the enterprise, but not analyzed in terms of the situation. In this case the plan of work with staff is based on quite emotional, and little argued, but perhaps the correct ideas of the intentions of work with the personnel.

In addition to the above given classification, two types of personnel policies are distinguished - open and closed.

The open personnel policy is characterized by that organization is clear to potential employees at any level, a man can come and start working as at the lowest position, so at the position in senior management level. The organization is ready to hire any specialist, if he has appropriate qualifications, without regard to experience in this or other organizations. Such personnel policy is inherent to modern telecommunications companies or automobile concerns willing to "buy" people in any job level, regardless of whether they worked previously in similar organizations. Such personnel policies may be hold by new organization, which are characterized by aggressive behavior in winning market, targeted at the fast growth and rapid access to the advanced positions in their field.

The closed personnel policy is characterized by that organization is oriented to the addition of new personnel only from the lower post level, and only members of the organization can fill vacant senior posts. Such personnel policy typical for companies focused on creating a certain corporate atmosphere, forming of the special spirit of involvement, and perhaps those working in the conditions of deficiency of human resources.

Comparison of these two types of personnel policies by the basic personnel processes is illustrated in the Tab. 3.1.

Construction of personnel policy includes three stages: normalization, programming and monitoring of personnel.

Table 3.1

Comparative characteristic of two types of personnel policy

Personnel process	Type of personnel policy	
	open	closed
Recruitment	The situation of high competition on the labor market	The situation of labor shortages, lack of inflow of new labor
Personnel adaptation	Facilities for rapid inclusion in competitive relationships, introducing new approaches to the organization proposed by newcomers	Effective adaptation by the institute of instructors ("guardians"), high cohesion of the group, inclusion into traditional approaches
Training and the staff development	Often it is held in outdoor facilities, promotes new borrowing	Often it's held in internal corporate centers, promotes the formation of a single point of view, common technologies, adapted to work of the organization
Promotion of personnel	Difficult growth possibilities, as prevailing trend of recruitment	The company employees always have the preference for appointment to senior position, career planning is conducted.
Motivation and stimulation	Preference is given to issues of stimulation (external motivation)	Preference is given to issues of motivation (satisfaction of needs for stability, security, social acceptance)
Implementation of innovations	Constant innovation impact of the new employees, the basic mechanism of innovations - a contract, determining of the liability of employee and organization	The need to initiate specifically the process of developing innovations, high sense of involvement, responsibility for the changes through community awareness of human and organization destiny

Normalization of personnel is set to coordinate principles and objectives of work with the staff, the principles and objectives of the organization, strategy and phase of development. It is necessary to analyze the corporate culture, strategy and development stage of organization to predict the likely changes, to specify the image of the desired employee, the ways of its formation and purpose of work with personnel.

Programming of personnel is carried out to develop programs, ways to achieve the goals of the personnel work, including the specified current conditions and likely changes of the situation. The system of procedures and measures to achieve the objectives, a kind of personnel technologies, set forth in the documents, forms (always taking into account both the current status and the probability of change) must be worked out.

Monitoring of personnel is to develop procedures for diagnosis and prediction of staffing situation. It is necessary to select indicators of personnel potential, develop a program of continuous diagnosis and mechanism of specific measures for developing and applying knowledge and skills of personnel. Considering the enterprises that conduct regular monitoring of personnel, that are included into a single system of connected tasks, methods of diagnosis and impact, adoption and implementation of solutions, we can speak of the existence of personnel policy as a tool of management.

Considering the above mentioned facts, in our opinion, personnel policy, detailed in the procedures and rules designed to, first, facilitate the formation and execution of tasks that perform

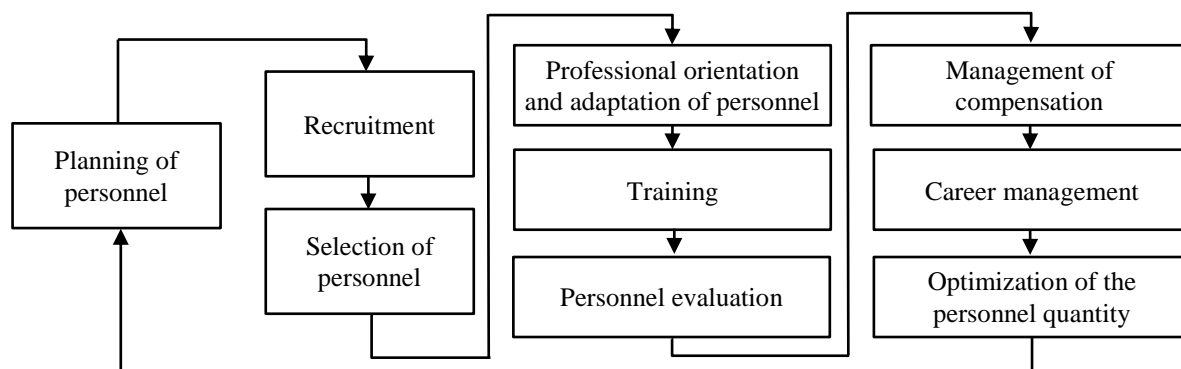


Figure 3.3 – The functions (processes) of HR

the personnel service. It is best these tasks (personnel actions, which correspond to different stages of personnel policy) to describe by the term "processes". That is the process of personnel management - a system of "subprocesses": recruitment of personnel, its learning, adaptation, etc. - that can be intersected or be imposed one another within a single organization (Fig. 3.3).

The process of management, shown in Fig. 3.3, is, with some degree of conditionality, a reflection of the entire process of management, presented as a set of five major management functions: planning, organization, motivation, control and coordination. Naturally, it is not necessary to consider the process of personnel management in terms of the classical approach to management, but it should be kept in mind that understanding of this process in isolation from the traditional view that exists in administration science is impossible.

3.4. Service of personnel, its structure and functions

Personnel policy is implemented through a system of personnel management of the enterprise - personnel services.

Personnel service in the organization - a set of specialized structural units in the sphere of the organization management engaged with the officials (managers, professionals, performers), designed to manage resources within the selected personnel policy.

The main purpose of the personnel service is not only to be guided in the implementation of personnel policy by interests of the company, but also act due to the labor laws, social programs, as approved at the national and at the territorial level.

The functions, structure and tasks of personnel service is closely related with economic development, understanding by the leadership role of personnel in achieving the goals and the tasks faced by manufacture (organization).

Today's realities require a comprehensive solution not only of human resources, but also performing of the main task by the personnel services in the conditions of the new economy - to combine the goals of enterprise development with the needs of workers who realize these goals, to balance the development strategy of an enterprise (organization, company) and employed personnel.

Personnel management – is not only the function of the personnel service. According to one or other direction within its competence other administrative subjects are directly involved into personnel management - line managers of production departments with their subordinates specialists.

In the higher branches of the administration (management) the issues of strategic order are solved: formation of the personnel policy, strategy and tactics of its implementation, the task of development of methodical and regulatory materials (documents), control in their implementation and overall management of all departments of work with staff.

At the level of some manufactures work of HR has generally operational nature. Branching of functions between the Office of Personnel Management Board and heads of separate production structures must be sufficiently precise, avoiding duplicating the work, which increases responsibility for results.

Functions of personnel management at the plant are performed by line managers (heads of department, team leaders, masters) and management structures craft specialists (economists, engineers and organizers), guild NGOs (mainly trade unions). Line managers are involved into the reception of staff and masters together with specialists provide conditions for effective work and the use of a worker according to his abilities.

In modern conditions the personnel service must be organizer and coordinator of the whole staff work in the enterprise. It is designed to fulfill the function of control over personnel policy in the structural departments, to oversee payment systems, health care workers, and create social and psychological climate in the collective and social protection of workers.

The effectiveness of personnel service in the enterprise depends on:

- its specification and concretization of each structural unit functions;
- interconnection of structural departments work within the same service;
- organic relation of personnel service work with technical and economic operation utility services work;
- staffing service.

In current conditions the basic structure of personnel service has no generally specified form, but one of its variants proposed in Fig. 3.4 should be recommend. It is focused on the normal list of works and implementation of a strategic approach to personnel policy simultaneously with the development organization.

The specific structure of personnel service, distribution of work between personnel

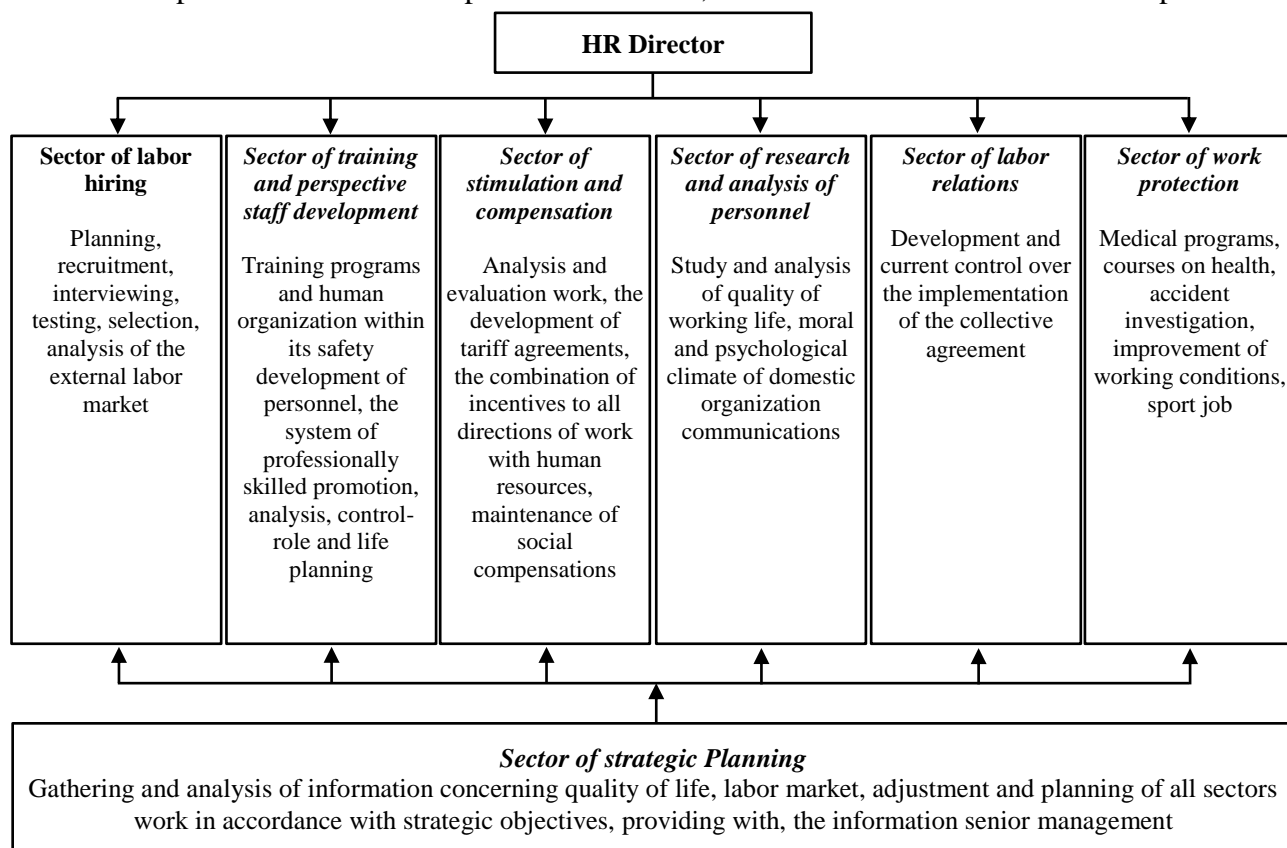


Figure 3.4 – Organizational structure of personnel service in the enterprise

departments and within the structural department between performers, can vary in large range, since it depends on many factors. Among them it should be noted, first, the size of the enterprise (the number personnel employed on it), the volume of administrative works of each species, understanding by the leadership of challenges of personnel management. Despite the effectiveness of an integrated approach to management, in some plants the most important is, for example, selecting personnel, the second – is a career planning service, the third – is evaluation of results and wages. Significant influence has the style and techniques of control that the administration uses to their subordinates and so on.

In the course of designing of the personnel service management structure and organization of its work one should proceed from the fact that the existence of any business department makes sense only under certain conditions (in case of certain personnel, the amount of administrative works of this type). In other circumstances this function may be transferred to another structural department or an individual within any structural unit.

First, the amount of works must be sufficient to load at least two or three people to be able to provide a separate group within the department.

After defining the functional structure of the personnel service, the problem on a list of tasks for each structural unit should be solved, its functions, staffing and related structures employed workers, their duties.

Therefore, we proceed to the consideration of position aspects in personnel management.

Position is a staff unit of an organization, primary element in its management structure, characterized by the totality of rights, duties and responsibilities of the worker, his labor functions, frames of the jurisdiction, the legal provisions.

Personal legal consolidation of a position makes its carrier the *official*. He has the right to exercise power within the competence that leads to legal consequences (he can approve and issue or to register acts, to sign money documents, etc.). Since most of the following actions are issued as documents, the extent of the officials rights are determined by participation limits in their preparation and implementation.

Thus, the ability to manage human, material and information resources appears in *the right to sign* official documents, to promote or inhibit one or other actions - the right to vise document that is signed or approved by the leadership, to propose their own variants of action and to evaluate other proposals - in right to participate in developing the document, and finally, the possibility of an official to check how the decision reflected in the document are implemented -in granting him the right to control them.

Any position has its own name, which reflects the content and nature of work performed by the person who occupies it. This name consists of basic components and additional information about the business activities of its contents, and the time of the performing. For example, “an electrical engineer”, “an alternating administrator”. If the base name exhausts all the content features, we use only it.

Each post is the bearer of certain *authorities*, that is set formally granted rights and duties, to make decisions independently, command and carry out certain actions in the interests of the organization.

3.5. Planning and optimization of the personnel number

A personnel planning is the first phase in the process of personnel management. Through human resources planning a long-term, future-oriented, personnel policy is realized. Planning is combined with the strategy of personnel management. Together they make scheduling function (Fig. 3.5). Developing a strategy for managing human resources and developing plans and technical measures for its implementation is actually the process of human resources planning.

Human resources planning, in fact, is the application of planning procedures for completion of states and personnel.

The planning process has three stages:

- 1) assessment of available resources;
- 2) assessment of future needs;
- 3) developing programs to meet future needs.

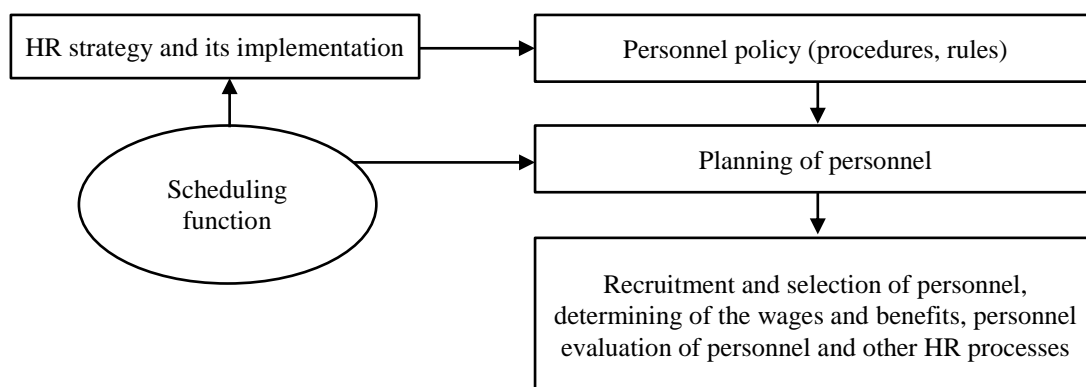


Figure 3.5 – Personnel planning as the primary process of human resource management

Personnel planning should answer the following questions:

- how many workers, of which qualifications, when and where they are needed;
- how to attract the necessary staff and cut unnecessary personnel without causing social loss;
- how to make better use of staff according to his abilities;
- how to ensure the development of new personnel for skilled activities and support their knowledge according to the demands of business;

- what costs are required planned staffing arrangements?

Thus, the personnel planning in the existing organization is logical to start evaluating its availability. Management should determine how many people are engaged in fulfillment of every operation necessary to implement a particular purpose.

The next phase of planning is forecasting of the number of staff needed to implement short- and long-term goals.

Methods of forecasting of human resource needs are:

1. *Extrapolation* – is the most simple and often common used method, it presupposes the transferring of the current situation (proportions) in the future.
2. *Expert assessment* – is a method based on the use of linear experts to identify needs for human resources.
3. *Computer models* are some mathematical formulas that allow simultaneous use of extrapolation methods, expert assessments, and information about the dynamics of factors affecting the demand for labor organizations.

There is such a classification of methods of planning staff, which overlaps with the above given: balance, normative and mathematical and statistical methods. This classification is methodology known from domestic organizational sciences.

Balance methods are based on reciprocal linking of resources of the organization and their needs within the planned period. If resources compared with the needs are not enough, it looks for additional sources, allowing covering the deficit.

Another method of planning is *normative*. It presupposes, that the basis of targets for a specified period (and, correspondingly, the basis of balances) are placed by the standard cost of various resources (in this case - human) per unit (in this case - working time, payroll costs, etc).

The production standard, time, service, and number belong to the *labor standards*. They are set for employees according to the achieved level of engineering, technology, production and labor.

The *norm of controllability* is the kind of quantity norms, which shows how many workers may be subordinated to one supervisor. For higher levels of administration it is 3-5 persons, for medium 8-10, for the lower 12-15 people.

Normalization of resources is carried out in three main ways: statistical reporting (actual results are compared with the amount of time, the specific costs are defined on its basis), research and production (based on the timing of operations performed by the most experienced and trained employees, assessing and summarizing data) and analytical calculation (based on the physiological potential of the human body, discovered on the basis of specific medical and biological research).

The third group of planning methods is presented by *mathematical and statistics methods* that present the optimization of calculations based on various models. The statistical methods belong to the simplest ones, for example, correlation model, which represents the relationship of two variables.

Linear programming methods allow, by solving equations and inequalities, linking a number of variable indicators, to determine their optimum values in mutual coupling.

The optimization of the personnel number. The process of optimizing of personnel quantity means a reduction or increase in the number of employees due to the influence of some internal or external factors. Thus the term "optimization" is considered primarily in terms of improving the work efficiency of the organization as a whole. However, in each case the decision to dismiss or transfer the employee to another job or to reduce a work day should be considered individually, because as a rule, these processes have painful nature.

Dismissal of a member of the social organism organization affects, of course, the whole team.

Each employee's calm, his confidence in the future would be broken, and therefore his accuracy would decrease, if he doubts the necessity and justice of, even somebody's, dismissal.

And this confidence should be created. In such cases, the company provides cash awards, honorary awards, finally, transfer to less challenging work that allows employees to remain active.

A benevolent and wise leader is able to spare the feelings and care for an employee, if he had to hit him while he finds a way to fulfill all other members of the social organism of confidence in the future.

Dismissal – is a difficult psychological situation for the person, because, being in this situation, we should use the following tips:

- 1) dismissal -is the need for the company, not the evaluation of your activity. The firm seeks to survive;
- 2) remove the "poison" of your soul. Depression and irritability – is a bad visiting card;
- 3) evaluate yourself rationally. Try properly "present" yourself during the job search (skills, experience, abilities, ethics, appearance, optimism);
- 4) be pragmatic. The employer selects the employees, and your candidate can not fit him, but you also don't need any work;
- 5) do not reduce social circle and contacts;
- 6) strive to be more active;
- 7) consider the role you play in life. What qualities could you make "work" more effectively?

Dismissal of personnel for any reason must be *economically viable and socially effective*. While dismissal personnel you are advised to follow these rules:

- 1) reduction should occur with reference to the job places, so those workers should be fired, whose places are reduced;
- 2) it is useful to avoid additional costs in case of reduction, except as provided by law;
- 3) after the reduction there should not be any further costs.

In practice, the following *variants of optimization (reduction)*, which are recommend by the leading experts on HR management:

- 1) termination of recruitment. This measure allows to employ released workers due to the natural employees release (which is about 5% of the total the number of staff);
- 2) movement of surplus of labor to available seats;
- 3) reduction of working hours. In this case, the excess number will be eliminated due to that more workers will be need. There are several options of such reduction. There are abolition of overtime, overload of some workers, some employees should work part time, and so on.

Due to the above mentioned context it should be noted that a key problem for any organization is *fluctuation of personnel*. One can distinguish two types of fluctuation - physical and psychological (hidden). *Physical fluctuation* covers those employees who are quitted due to various reasons and leave the organization. *Hidden, or psychological, fluctuation* occurs with those workers who do not leave the organization outwardly, but actually resign it, and are excluded from company operation. This kind of fluctuation has no reflection in the documentation, but can cause significant damage to productivity. Often officials show passive resistance or hidden sabotage, they are present physically but not mentally. They do not work during the day and carry only the most necessary things or, worse, execute with insufficient quality. For example, in some business organizations the employees get payment for eight hours of workday, but actually they work an average maximum 4,5-5 hours during the day. Another time they may be in the cafeteria, by the computer for entertainment on the Internet - sites or have with colleagues the everyday talk. Often these employees only create the illusion of business activity, in fact, they actually have left the organization, though they did not give it up. This group of employees may be represented by all levels of organization, from top managers, who are at the highest levels of management, workers, and the lowest level. Employees, who have left the organization but did not give it up, burden it with serious problems that hamper the achievement of organizational goals.

The main reason for fluctuation is the workers discontent of their position. In particular, they are dissatisfaction with salary, conditions and work organization, unsolved social problems, distance from home, lack of recreational facilities, child care centers, careless attitude of the leadership, unwarranted harassment, instability of official positions and the inability to make a

career. Thus, fluctuation of personnel is caused not only by the social and living disorder, but also by the complexities of self-realization or self-affirmation.

The circumstances that provoke fluctuation of personnel can be fully controlled (conditions of life and work), partly controlled (staff satisfaction, interrelations, forms of motivation) and managed (natural and climatic factors).

Purposefully affecting the first and second, one can significantly reduce fluctuation of personnel. There are different measures to achieve this: technical (the improvement of techniques and technologies that make better the working conditions), organizational (each worker finding the most appropriate place to him because, for example, if a sense of worthlessness and congestion increases fluctuation), socio-psychological (the provision of fringe benefits and guarantees, improved of indoor climate), cultural and living (increasing health care).

For the management of the fluctuation personnel processes, it has become particularly needed to collect and analyze information about them. It considered of high importance to collect data about the total number of lock out workers, women who quit; people in the age of 18 years, 19-30 years, over 50 years; about low- and high skilled workers; with the period of probation less than 3 and more than 10 years; with professional, high and specialized secondary education.

Researchers, for example, have proved that the desire to change one organization for another is inversely proportional to age. The peak of changing one's employer ends at the age of 24-25 years. Low skilled workers change jobs more often, because they don't have any perspectives; families, who earn less and live far away.

In large organizations, data about fluctuation of personnel should be analyzed by professions, departments, positions, causes, age retired. In-depth analysis can be conducted once a year, and quantitative estimates for the departments - each month. This helps to clarify the reasons and take timely measures to consolidate staff.

3.6. Recruitment and selection of the staff

Hire of labor - this series of actions that the organization uses to attract candidates that have the needed qualities to achieve its goals.

As shown in Fig. 3.6, hiring employees is a necessary element in the process of personnel management.

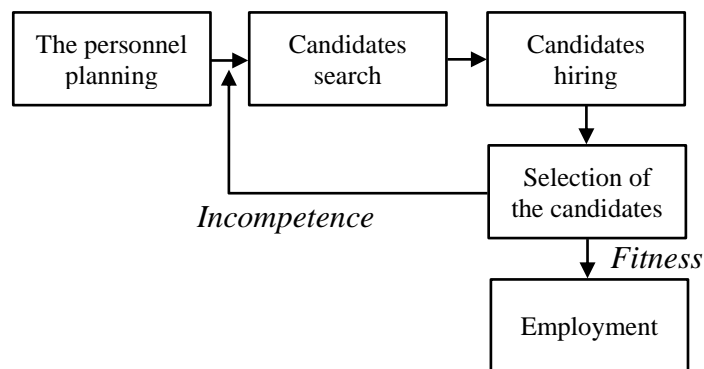


Figure 3.6 – The process of hiring

The importance of the recruitment process that H. Fayol had noted before in the early twentieth century and modern data proves this also. Today the costs of hiring managers in large US companies are 30-40% of his future annual salary.

These include: the cost of board, transportation recruiters and applicants, payment services companies, which search for candidates, the cost of their arrangement, and salary of persons, who engaged hiring.

Hiring staff is to create the necessary reserve of candidates for all positions and occupations, from which an organization selects most suitable for work employees. The required amount of work on employment is largely determined by the difference between the existing workforce and future needs in it. This takes into account such factors as retirement, employee

turnover, release due to expiry of contract employment, expansion of the organization. The hiring takes into account external and internal sources.

The means of an *external recruitment* are: the publication of announcements in newspapers and trade journals, with reference to employment agencies and the companies that supply the leaders, recruiters visit the institutes and other educational institutions and so on. Some organizations are invited local residents to submit applications to Human Resources for any future vacancies.

External sources of recruitment is all and an indeterminate number of people able to work in the organization, but not working in it at the moment.

Establishing contacts with the organization of those who is for her interest as a potential employee, to encourage them to possible future cooperation, called *the recruitment of staff*.

Recruitment of staff can be indirect - through the public image of the organization.

Presentations tend to attract people or random passers-by, who live nearby, usually from those who seek additional incomes, such as advertising or sales agent.

Job Fairs are designed mainly for people wanting to change jobs, and *on holidays and festivals* can accidentally come and highly qualified professionals who are interested in this organization.

A lot of major companies search and select candidates for the job by themselves. In this case it is very important to imagine, to which *media* they apply. For the organization of successful advertising campaigns to attract personnel into the organization, it is important to choose the appropriate media type including the need for personnel, the required degree of specificity, costs.

Advertisements should shape the image of the organization, not contain discriminatory aspects, be visible, interesting, short, set, true, legitimate, well-written, to stimulate the right people for applying, and prevent unwanted people to do it, otherwise much time will go to screen out applicants.

The announcement on the hiring, you must provide the following information:

- Features of the organization (name, location, activity);
- Characteristics of the position (number of tasks, a place in the structure, growth prospects);
- Applicant requirements (knowledge, experience, qualifications, skills, capacity);
- System of payment, benefits and incentives;
- The process of the selection (important documents, the timing of their delivery);
- Address and contact numbers.

Special type of advertising in the press is so called *publicity* - free or paid, (but not for advertising rates), article about the organization and the benefits of working for it, which is preparing by the board or service personnel.

Most organizations are trying to make recruitment mostly *within their organization*. It is cheaper to promote own employees. In addition, it increases their interest, improves and enhances the moral climate; the work's goodwill grows up also.

The popular methods of recruitment through the use of internal reserves are *sending information about the vacancy*, inviting skilled workers. Some organizations practice to inform every employee about the free vacancy, allowing them to submit applications before the application will be considered from people outside.

One of the methods is also *appealing to their employees* to recommend their friends or acquaintances for a working place. This method is attractive, firstly, low cost, and, secondly, achieving very high degree of compatibility of candidates with the organization because of their close contacts with its representatives. Its disadvantages associated with informality - the ordinary employees are not professionals in the selection of staff do not always have enough information about the job, remuneration, etc., are often biased in judgments regarding the potential of their close people.

In modern Western firms today more and more distributed *secondary employment*, a set of temporary departments and creative groups. It is made by recruiting agents or directly by the management, or on the basis of internal competition, which could be announced at a specific position or department.

As a result of the temporary aid of additional work, their horizontal and vertical redistribution in large organizations form *internal labor market*. Its operation reduces costs, creates incentives for staff, let the quick close the most important jobs by fast reorganization, keep the most valuable part of the staff, and support staff stability.

In general, the advantages and disadvantages of recruiting, both internal and external sources, cite in the Tab. 3.2.

Before one decides on the selection of new employees, it should determine if all the reserves are used in the organization. These include:

- Overtime, increasing the intensity of labor;
- Reorganization of new production schemes;
- Temporary employment;
- Involvement of specialized firms to carry out some activities.

Table 3.2

Advantages and Disadvantages of the Recruiting Sources

Sources of Staff Involvement	Characteristics Staff Involvement	
	Advantages	Disadvantages
Internal	<ul style="list-style-type: none"> - the opportunity to choose among a large number of candidates - new people – new ideas and methods of work - reduction of overall demand of the personnel due to involvement of additional workers 	<ul style="list-style-type: none"> - high costs - the possible deterioration of moral and psychological climate among old staff - a high risk due to lack of information about a person - poor knowledge of the organization and need of a long adaptation
External	<ul style="list-style-type: none"> - the possibility to plan involving staff process - low expenses - providing staff promotion prospects, which increases their satisfaction with work, self-confidence - maintenance of the basic staff during the reduction of personnel and rapid filling of vacancies - candidates know the organization well, this provides them an easy adaptation and their roll their most - a painless solution of the employment and reduce of personnel fluctuation 	<ul style="list-style-type: none"> - small number of vacancies - limited range of labor application - additional costs of reeducation - the tension in a collective due to the internal competition - possibility of close-family relations (nepotism) - reducing the activity of those who are left in the basket - maintain a general shortage of labor

At the next stage of HR management selects the most suitable candidates from the reserve, established during the set. In most cases, one must choose a man who has the best qualifications to perform the actual work on his job, not the candidate that is most suitable for promotion. Objective decision about the choice, as the case may be based on education candidate, his level of skills, prior work experience, personal qualities. Effective recruitment is a form of preliminary control the quality of human resources.

Recruitment process with the selection of the staff is a complicated part of the hiring. Recruitment process can be represented as the following scheme (Fig. 3.7).

Behavioral Science has developed many different types of *tests* that help to determine how effectively the candidate is on a specific job. These tests can be useful for selecting candidates if we take a strong correlation between high estimates, which are got during tests, and actual performance at work. Management should evaluate the test results and determine whether or not people who are good at tests are more efficient workers than those who gain fewer points.

In *assessment centers* (which were first established during World War II for selection and evaluation of agents for the secret services) evaluate the ability to perform work-related tasks by modeling methods. One method, the exercise called "market basket" offers candidates a hypothetical role of the managing company. Within three hours a candidate has to make decisions - how to respond to letters, memoranda, how to respond to different information. He has to make decisions, communicate in writing with subordinates, vest, hold conferences, and establish priorities and so on.

Researches have shown that assessment centers are a great way to predict the working qualities of candidates. However, it is very expensive and therefore only large successful companies use them.

Note that the first phase - the initial selection - begins with the analysis of a candidates list in terms of their compliance with the requirements of the future employee. The main purpose of the initial selection is to screen out candidates who do not have the minimum set of characteristics needed to take the vacant position.

Methods of initial selection depend on the budget, strategy, company culture and the relative importance of the position for the organization. At present time the most common methods of the initial recruitment are questionnaire data analysis, testing, examination of handwriting (these methods may be classified as a group testing methods and assessment group methods). *HR interview (interview)* is the most universal way of evaluating personnel and can serve as a basis for his selection and subsequent certification.

In preparation for the interview should figure out such fundamental questions:

- 1) that candidate's personal qualifications (knowledge, experience, guidelines) required for the performance of a work;
- 2) which questions are put to all candidates, without exception, can obtain information and limit

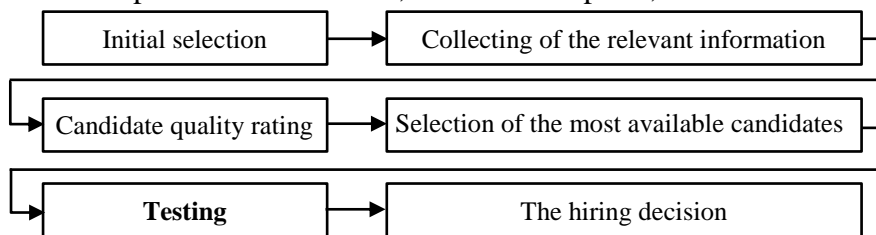


Figure 3.7 – Stages of the recruitment process

the choice;

- 3) who must be the interviewer - one person or several - and in what form should be interviewed.

If you prefer group interviews, which is more reliable means, the question of the chairman exists. He introduces candidates to experts, explains the procedure for conducting interviews, eliminates the psychological barriers and creates the necessary atmosphere, makes the final decision in case of disagreements.

The conversation begins with the presentation of the candidate to the employee personnel services and other interviewers (if any), tales about the organization, the events there and the corresponding post. The interviewer should create a mood, which eliminates the psychological tension, through abstract discussion of general topics, to make candidate more talkative.

The interview is an exchange of information between representatives of the organization and a candidate to occupy the vacant job, during which the representative attempts to form his own opinion on two main issues: whether the candidate is able to be a successful employee in the

organization (the ability of the candidate); whether the candidate will be a successful employee on the post and in the organization (candidate motivation).

Based on interviews the head of the department (with a human resources specialist) chooses the candidate that it considers most suitable for the position. Department of Human Resources is preparing a letter of offer that describes the conditions of his work - the start date, job title, subordination, the value of wages, working hours, holiday time and so on. The signed letter of offer by the organization or department thereof shall be forwarded to the candidate.

The next stage of integrating the new employee is directly in the workplace and the primary responsibility is on the head of the department, to which a new employee comes. The manager should introduce him to colleagues and business functions, explains the routine of work, specialties of the department.

3.7. Career guidance and adaptation of the staff

Career-guidance and adaptation of the staff are seen as one method of assessment, the productive activities, reward systems, training and education, promotion, which used to develop the capacity of workforce.

The first step in order to make worker job more productive, is a professional orientation and social adaptation in the team. If management is interested in the success of the new employee to the workplace, it must be remembered that the organization - a public system, and each employee - a person.

During this period the person has a new attitude to work because of social adaptation to the organization (organizational socialization). ***Organizational socialization*** - the process of learning the structure of authority, awareness of the doctrine, adopted by the organization, learning and understanding what is important in this organization or its departments.

Within organizational socialization has place a detailed review of the employee team and new responsibilities, learn of behavior stereotypes; *assimilation* - a complete adaptation to the environment and, finally, *identification* - identifying personal interests and goals with the general.

Adaptation is sometimes viewed as part of career guidance of the staff. ***Career guidance*** is a system of measures which includes providing information and advice necessary for the person to choose the profession that best represents his personal skills and qualities and which are required on the labor market. Partial use of the employee skills in work harms not only his self-development, but turns a loss to the organization. The gap between training and labor content of functions performed by the employee reduces his interest in work that eventually leads to productivity fall, deterioration of product quality, the growth of occupational diseases and injuries.

Mechanism of career guidance is a way of interdependent processes of the employer, which has competitive features, and provides training, education, counseling, selection and adaptation of the employee.

Two directions of adaptation are distinguished:

- *Primary*, the adaptation of young specialists who don't have professional experience (usually in this case of graduates);
- *Secondary*, the adaptation of workers who have professional experience (usually those who change the object of activity or professional roles, for example if you scroll to the rank of the head).

There is also a classification of adaptation of the criteria: *professional* (active development of the profession, its specificity), *physiological* (adaptation to conditions of work, mode of work and leisure), *social-psychological* adaptation (adjusting to the team and its rules, guidelines, and colleagues, economic realities).

Young people, who get jobs, have a basic training course - adapt. It lasts for a short period - two months. The main content of initial training - beginners have an introduction with a company, employee relations principles, traditions, customs, rituals, moral training before work.

During in-depth programs adaptation employees here takes part HR managers as well as the line managers. In small firms program manager adaptation is given by practitioners, sometimes -

with the involvement of unions employee. One uses a variety of programs - from those involving mainly oral information, to formalized procedures, to link oral understanding of written and graphic instructions.

The adaptation begins immediately from the Human Resources during the reception and execution of work. Human Resources Inspector conducts a small conversation, during which he presents the agency, department or shop where the employee will get a job.

Then he sees a new employee at his workplace and encourages direct supervisor. The last, in his turn, introduces the newcomer to staff, colleagues at work, workplace. As the manager wishes, he can attach to the novice mentor from among the more experienced and older workers.

Typically, the supervisor conducts periodic discussions with the new employee for a month, inquiring about the difficulties that he has, his success, and regularly performs assessment work.

To create a scientifically based system of career and adaptation should be based on specific goals (Fig. 3.8).

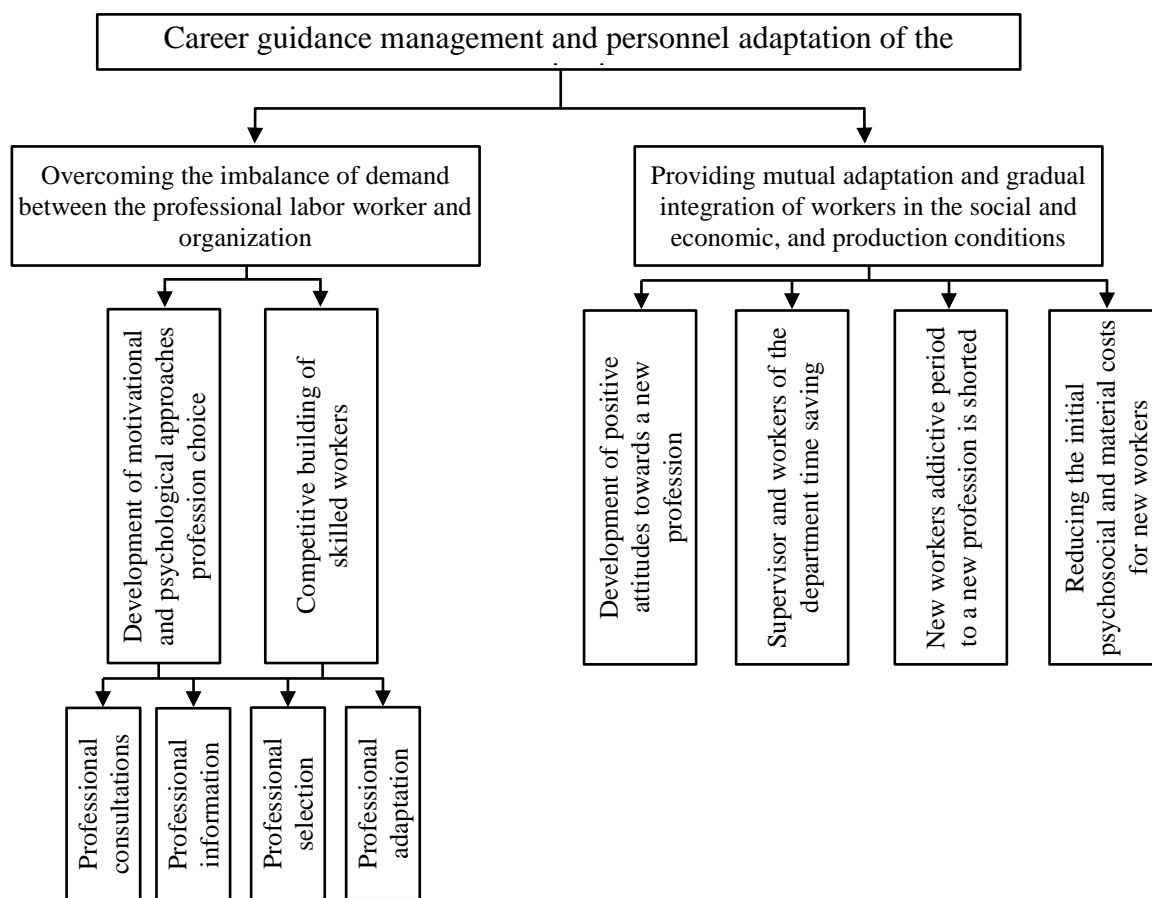


Figure 3.8 – Aims and Tasks of Management and Career Guidance during the Organizational Adaptation

To achieve these goals in organizations should be composed individual service HRprofessionals or independent department of carrer and adaptation training. The staff of that department must contain at least two persons: career-consultant (career guidance) and the HR manager (adaptation of employees).

3.8. Training

Training is useful and necessary in three cases. Firstly, a person works in the organization. Secondly, when the employee is appointed to a new post or when he is entrusted to a new job. Thirdly, when the check finds that the worker doesn't have certain skills to do effectively his job.

Training is understood as the staff development program, staff, focused on the transfer of new knowledge fields, which are important for the organization, skills to solve specific production situation and experience of professional conduct during some meaningful situations.

The training process is quite complicated. Training begins with a human birth and lasts a lifetime, but the intensity of perception, so striking in childhood, decreases with age, and during intellectual and physical flowering individual learning ability is significantly lower. This strange fact has been confirmed by many teachers, psychologists and sociologists studies (Fig. 3.9).

Subordinates employees training is one of the most important responsibilities of managers.

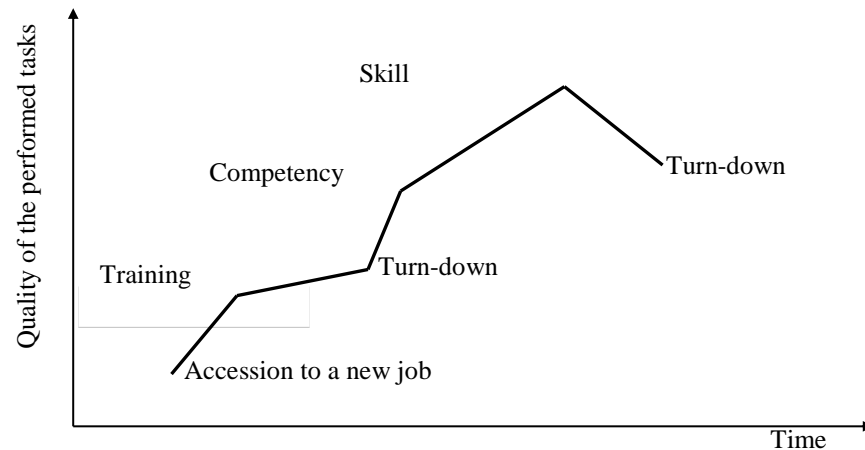


Figure 3.9 – Business Activities Stages of the Officer

Every time when teaching takes place, supervisor should:

1. Make the employee feel free. Do not tell him what he had already known, to starts with unknown details. Interest employee in learning the specifics of his work, explain how his work or operation associated with producing the final product, to help him find his place.
2. Show the operation. Tell, show, illustrate and ask him carefully and patiently about the main operation stages. Give small information scopes. Repeat work and explanation, if it is necessary.
3. Let the employee go on with the operation by his own. Try it, giving him the opportunity to do the job. Let him explain and show how it works. Let him alone explain the main points of operation. Firstly, the employee will attempt to achieve precision performance and only then - speed. Keep doing this until there is confidence that he knows his work basically.
4. To continue. Give employees the opportunity to work by his own, when he "has felt" job. Introduce whom he should ask when the help is necessary. Encourage questions and check frequently at first, perhaps every few minutes, and then every few hours or several days.

The above recommendations apply to *individual learning methods* such as coaching and apprenticeship. *Instruction* in the workplace is an inexpensive and effective means of simple technical skills, so it is so widely used at all levels of modern organizations.

The simplest type of learning is *independent learning* - it is not required either the instructor or a special room or a certain time - the beginner learns where and when it is suitable. The main feature of this type of training is its individual character. Beginner can determine the pace of training, number of repetitions, duration of employment, in general to control important parameters of the learning process, which is given by other methods. At the same time the individual nature of self-study deprives of one of the major terms of performance - feedback.

Kind of independent study is the *rotation* in which employee moves temporarily to another position in order to acquire new skills. Rotation is widely used by enterprises that require workers to have polyvalent skills, the possession of several professions. Rotation effect on employee

motivation: to help overcome the stress caused by monotonous business functions, expands social contacts in the workplace.

One should consider *the group training*.

There are several methods of group training - lectures, simulation games, discussion of practical situations (cases) and the demonstration of slides, videos. A large number of training courses for employees is a combination of several of these methods.

Lectures - the oldest and most traditional method of teaching. It should apply, even when students do not know the subject. Lecture presentation is unsurpassed means to give a large amount of educational material in the short term, can develop many new ideas during one session. The scarcity of lectures as a means of training is that students are passive actors in the situation. As a result, there is hardly some feedback, the instructor does not control the degree of learning and can make adjustments in the course of study.

Discussion and analysis of *practical situations*, hypothetical or real, can largely overcome this weak point. The basis of this method is discussion, group discussion in which beginners perform an active role as the instructor directs and controls. The successful use of practical situations discussed method requires the beginners to have a certain level of professionalism and knowledge, which have to be developed in the workplace or through other methods.

Business games are a training method, the closest to real professional students. The advantage of business games is that, as a model of real organizations, they both can significantly reduce the operating cycle and, thus, show participants, which will show results of their decisions and actions. Business games are quite useful in terms of developing practical, managerial and behavioral skills.

Demonstration is a training method in which information is given to students using video, slides, and posters, and so on.

3.9. Evaluation and appraisal of the staff

Evaluation of the performance of employees, in fact, belongs to the audit function within the staff management.

Evaluation of the staff is the process of identifying members of the organization performance of their duties and realization of organizational goals.

Quantifying the efficiency of labor is the next step after the employee has adapted in the team and received the necessary training to do effectively his job. Evaluation of the staff performance requires that managers collect information how effectively each employee performs the duties delegated to him. Conveying this information to his subordinates, supervisor informs them of how well they cope with its responsibilities and allows them to correct their behavior if it does not achieve the necessary requirements. However, performance measurement allows management to identify the best employees and raise really the level of their achievements and transfer them to more attractive positions.

Factors affecting the performance evaluation system of the personnel:

- 1) the nature of tasks performed by certain employee;
- 2) state requirements, restrictions and laws. State control in the promotion of workers, their wages and so on. Indirectly encourages enterprises to form more sophisticated assessment system;
- 3) personal officer attitude to the worker;
- 4) trade union action: can either support or oppose the current system of personnel assessment.

Basically, performance measurement serves three purposes: administrative, informational and motivational.

Concept evaluation is inextricably linked with the concept of certification in the field of personnel management - the most common system of assessment staff.

Certification is the process of evaluating employee performance of their duties, which are performed by his direct supervisor. The main purpose of certification is not to monitor compliance, but to identify the increase reserves of employee output. Certification involves several stages and, in fact, is an ongoing process (Fig. 3.10).

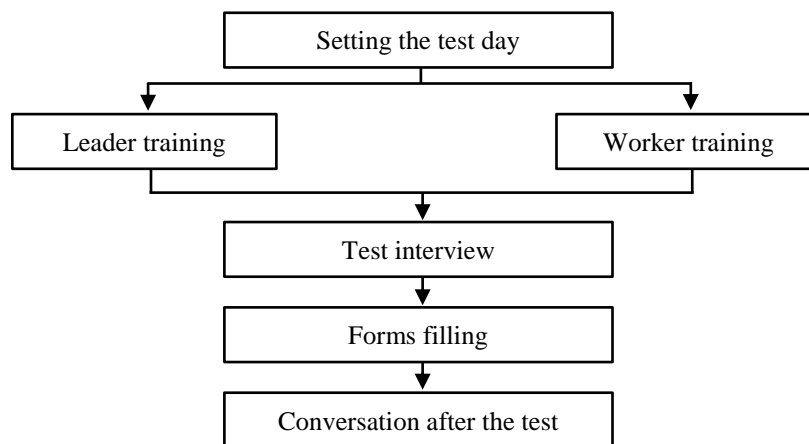


Figure 3.10 – The Personnel Certification Process

In the first phase of certification (Fig. 3.10) the head identifies early date of the interview and notify it to the employee, giving him the opportunity to prepare for certification thoroughly. *The employee preparation to interview* has to evaluate his own work since then, compile a work plan for the next period and a list of questions he would ask the head. *Preparation of the head* - a more difficult process because he is more responsible for the quality of certification than the employee, particularly for the prevention of subjectivity in the assessment of the employee (below will be considered the relevant recommendations of the head).

Main event in a benchmark process is *the examination interview* – the head meets the worker, during which there is discussion of the employee results in the last period, an assessment of this work as by the head and by the employee as well, the employee is approved plan for next year and for future. After the interview attested officer fills out the form.

There are several methods of certification. The oldest and most common method is *the standard estimates*. Manager completes a special form of the control sheet, sometimes in combination with descriptive form, which requires that a person, who conducts the certification, not only evaluated the employee, but also explained his reasons for evaluation. Control sheets require that a person, who conducts the certification, evaluates the employee and expresses specific opinions on personal qualities.

Different forms contain different list of qualities but experience has proved that among the characteristics that are selected for evaluation, there are usually dominate the following: qualitative and quantitative aspects of work, willingness to work together, initiative, dependability, and personality, attitude to safety, ingenuity, knowledge work, habits, ability to plan and ability to manage. For certification of each employee a certain form is used.

Method of standard estimates inherent simplicity, low cost and popularity. The disadvantages of this method are that the certification carries one person (subjective assessment), the standard scale does not reflect the sense of each individual worker, which may affect the quality assessment. To overcome these deficiencies, the evaluation form is filled not by the leader, but by personnel management specialist. Also not one but several standard forms are used, which had been created with the peculiarities of different professional groups.

Using *comparative methods*, the head compares the employee results of his department with the results of others. This help to distinguish group in the percentage of workers from the best to the worst. As with standard methods of evaluation, comparative methods are simple and have the disadvantage of subjectivity. In addition, these evaluation methods can cause confusion within the department.

The most popular today are the methods used to complement the traditional certification - *management by setting objectives (MBO - Management by Objectives)*. Usage of the method starts

with defining the key objectives of the employee for a certain period (year or six months). Such goals should be a few; they should reflect the major tasks of the employee for the next period and to be specific, to be liable, to be measurable and meaningful, etc. After the benchmark period, employee and supervisor evaluate each goal, usually a percentage of total personal plan and the employee (list purposes). Casting vote when the final decision is given, of course, has the leader.

When the main stages of appraisal are completed, a number of organizations practice *to have a talk with staff after certification*. Typically, the results report to the employees mainly in individual conversations with an employee director. Some companies offer leaders to make a separate official report on the conversation of the results, the reaction of the employee or his comments on the certification.

Certification may increase as employee morale, and its performance, to achieve these results, many things can make a conversation. The employee should be commended for its good sides of work, criticize constructively and make suggestions in a friendly manner. It is important that the employee knows not only the nature of the performed work, but also what is expected of him in the future. Some companies allow employees to view and save a copy of their certification, printed so that employees could not identify its author. For several years saved documents, reflecting the transcript of the employee record, thereby strengthening its sense of belonging to the company.

Alternative certification began to spread quite recently - 15-20 years ago and they still often refer to experimental. However, some of them have become widely used and well established as "standard" methods of evaluation staff of many companies. Among these methods, of course, is "360 ° certification".

"360° certification" employee is estimated by his supervisor, colleagues and subordinates. Specific mechanisms of certification may be different (everyone who take the test, has to fill the same form of assessment, each category fills a special form, certification by colleagues and subordinates is conducted on computer, etc.). But the essence of this method is clearly reflected in its title - namely, to get a full assessment of the employee.

Psychological evaluation methods are a peculiar kind of alternative methods of certification. Professional psychologists with help of special tests, interviews, exercises evaluate the presence and development degree of certain employee characteristics. Unlike traditional certification not the result are ranked (performance in his post), but employee potential. Psychological methods can achieve a high degree of accuracy and detail of assessment, but significant costs for the professional psychologists limit their scope. In modern organizations, these methods are mainly used to identify employees with leadership potential - the future leaders.

Involvement of experienced psychologists is effective when *the methods of monitoring the employees' behavior* apply. On the scale the examiner notes the number of employer actions when an employee had this or that behavior before. This observation should be treated directly with individual employee, and for his conduct in the team. There are some restrictions: material costs and ethical side of the question (how open could be an observation).

Big companies can afford to evaluate personnel, using different and complex methods. These organizations have *the special assessment centers*.

They examine *the indirect methods of staff evaluation* (human gait, appearance, handwriting, etc.), usage of which can be explained by the fact that people tend to change, as once, and the whole life long.

3.10. Career management, training of managers

Career management is the official program and, therefore, the process of employees' promotion in service that helps to reveal all their abilities and use their strongest sides, according to the organization view.

Career management programs, promotion, help organizations use their employees' career skills fully and thus enable workers to apply their fullest ability. Career promotion official program empowers people to take their work in organizing as a series of movements in different positions, which helps organization and individual development.

There are *types of career*. Career can be *dynamic*, associates with job changing, and *static*, which occurs in the same place and in the same profession as professional growth. There is *vertical* type, which suggests a hierarchical ladder of official grading promotion, and *horizontal*, which occurs within one level of management, but with the change of occupation, and sometimes profession. Combining these two approaches gives the so-called *ladder career*.

Career may be *administrative* or *professional*. Many companies, which are related to high technology activities, want to keep high-skilled staff and use more their creative potential. They set in line service ladder - ladder of scientific degrees and titles ("parallel service ladder", higher grades that meet Vice President). This prevents the intellectual elite transfer in administrative work, although the lower grades have the possibility of the mutual transition. Thus, professional and qualified promotion uses as the job promotion and also as the qualified staff development at the same time.

Another kind of career - *centripetal*, whose essence is not so much as move, such as their real result, which is approaching a "core" organization. It deals with a person, even without any high position, who may be close to the leadership, admitted in a narrow circle included the elite.

So, career success can be viewed as promotion within the organization from one position to another, higher, and as a degree of defined profession mastery, concerning experienced skills and knowledge, and received special recognition by management.

It should be emphasized personal view on the career. *Career* is individually perceived sequence of attitudes and behavior related to work the human life long. Therefore, despite the fact that the career concept is related to work, personal life and role in it are important.

Any career is done for the sake of something, thus has its own motive force that is changing some years lately. Based on them, people make strong efforts to achieve specific goals.

These motives are:

- *Autonomy*. Man is eager for independence, ability to do everything on its own. In the organization he gets a high rank, status, authority, merit, with which everyone is forced to reckon;
- *Functional competence*. Man strives to be the best professional in his occupation and be able to solve complex problems. He focuses on professional growth to do this and officer promotion sees through the prism of a professional. These people don't care much about the material side of things, but appreciate external recognition from colleagues and administration;
- *Security and stability*. Manages the activities of the employees are controlled by the desire to strength their position in the organization because they see the main task in obtaining the post that provides such guarantees;
- *Competence management*. Man is guided by the desire for power, leadership, success, associated with a high position, rank, title, status symbols, important and responsible work, high wages, privileges, recognition by management, rapid promotion through the ranks;
- *Entrepreneurial creativity*. Employees are guided by the desire to create, organize something new, do art. So for them, the main career motive is to find the required power and opportunities, which the certain job can give.
- *The championship demand*. Man seeks a career in order to be always and everywhere the first, "leave behind" the colleagues;
- *Lifestyle*. Man aims to integrate the individuals and families needs to receive, for example, an interesting, very highly paid job that allows him to move, manage his time, etc. If one doesn't have a family, the first place can get consistency of work, its exciting, and variety;
- *Material well-being*. People are guided to get a position with high wages or other forms of compensation;
- *Health conditions maintenance*. An employee aims to achieve a post that involves the performance of official duties in propitious conditions.

The main responsibility for career choice has an individual. A life position choice provides occupation that is different and often conflicts values (motive forces). People tend to give these values uneven weight at different stages of the life and career, in addition, then the possibility to obtain satisfaction from their choice changes. While choosing a career can apply appropriate research methods, real career choice is very subjective.

Leadership training is a development of skills, which are required by employees for effective performance of its duties or production problems in the future. In practice, systematic training programs used mostly to prepare managers to the service promotion. For successful leadership training as well as for education in general, careful analysis and planning are needed.

Using performance organization evaluation should firstly determine their managers' abilities. Then, by analyzing the content of work management should identify which abilities and skills are required to perform duties at all linear and functional positions in the organization. This allows the organization to find out which leaders have the best qualifications to occupy a particular post, but who need training and retraining. Solving all these issues, management can develop a training schedule for individuals who are elected for a possible service promotion or change to other posts.

Leadership training in general takes place to ensure for managers to master the skills and knowledge necessary to implement the organization's tasks.

Most organizations work with manager reserve distinguish two groups - the heirs (double) and young employees with leadership potential. Each group has its specific either in terms of selection, or in terms of development.

Heirs or understudy is a candidate to fill certain key company positions who is willing to work in these positions currently or will be ready for it in the near future. Heirs preparing is complex multistep process (Fig. 3.11), which requires constant attention by senior management, human resources professionals, and support managers. Not every modern organization effectively manage this process, many people still solves the problem of continuity in leadership in an expeditious manner at the time of the release of key positions. This is not surprising as systematic work with reserve managers require significant time, global perspective, patience, insight, often contrary to the operational tasks.

The first stage in the reserve work is *to identify key positions*, which have particular impact on the organization. Typically, the key positions are the CEO (the first head, his direct subordinates, managers of branches and divisions). The number and specific composition of key positions depend on the size and specifics of the organization. The large international companies the number varies between 30 and 200.

The same step makes a plan to free up key positions. Department of Human Resources along with the leader analyze carefully the situation which has arisen, taking into account age, promotion perspectives, personal interests and health of employees who occupy key positions, and determine the release terms of each.

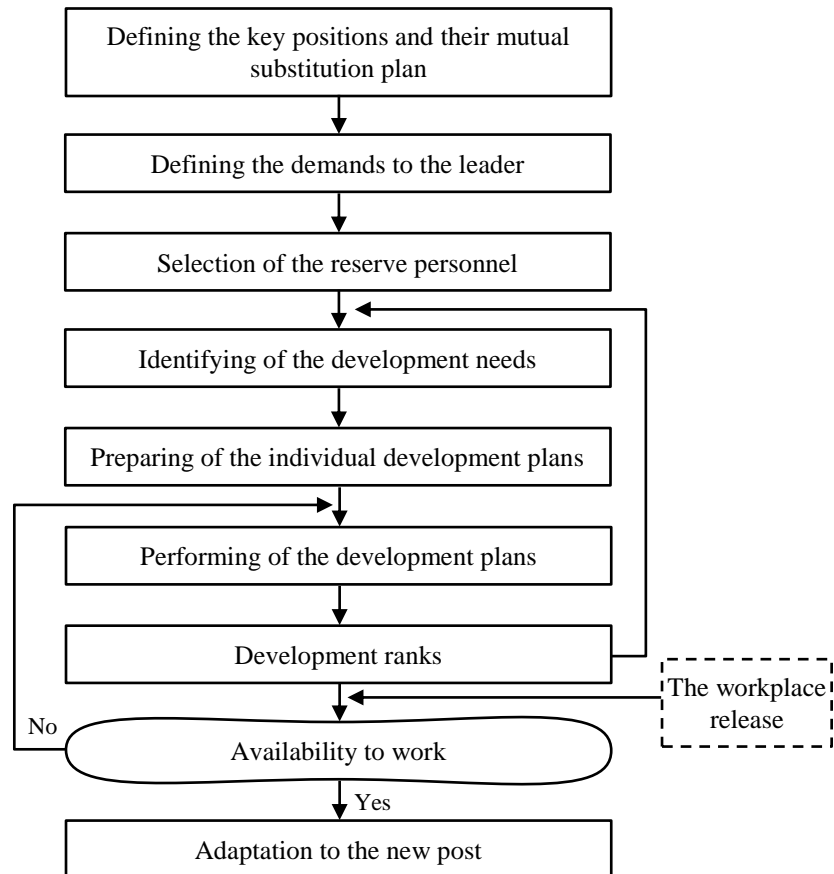


Figure 3.11 – The Planning and Reserve Managers Process

The next step makes *a head portrait* that includes: general features, characteristics of an effective leader of the organization and skills needed to carry this job.

Selection of candidates for reserve managers is controlled by the highest board of the organization together with the department of human resources in terms of confidentiality. Selection on the job takes into account *three main criteria*: individual employee characteristics match the ideal candidate profile for the certain position (to determine by the method of expert evaluations and psychological tests); results on currently and previously occupied positions (to determine on the basis of certification); degree of the candidate readiness (to estimate candidate potential as his compliance officer generic). Thus for each position the reserve should have at least two candidates, the second is always necessary to prevent emergencies and to encourage efficient work of the first candidate.

Preparing of the plan development is worked upon the comparing characteristics of each of the reserve Generic employee for the position. To perform this comparison, it is necessary to evaluate the candidate on critical parameters for the position, i.e. components of a employee perfect portrait (usually - problem solving, strategic planning, leadership, managing staff, interacting with colleagues, organization and coordination of resources, responsibility and goals' achievement, communication, etc.). This evaluation is conducted by testing or peer reviews: each of the criteria has the appropriate number of points.

The heirs training plans implementation requires the participation the three parties - the employee, HR and senior management organization. The development involves, above all, the heir active roll - without his motivation and efforts even the perfect training plan is doomed to failure. The direct impact on heir motivation has the leader. Role of Human Resources is a general control over the process of preparing successors.

The next stage is *the successor progress evaluation*: annually the head along with the Director of Human Resources conducts a formal progress evaluation of each of the heirs. During this evaluation takes place a detailed discussion of the heir to his post, the individual development plan implementation, and the evaluation of the degree of readiness to take up key positions.

The discussion takes place if the release of key leadership positions has happened; they talk about the readiness of successors and decide on the promotion.

After the appointment of the heir to his new job starts the hardest time - the *adaptation period*. Currently the employee works on a new position, also needs of assistance (informational, organizational, moral) from managers, colleagues and subordinates.

Except of the heirs preparing the organization searches for the young employees with leadership potential and develop their qualities.

Young employees with leadership potential - these are people that in the future can take leadership positions in the organization. Today there are many definitions and even more names for this group of people: *high-potentials, high-flyers, fast-track employees* and so on, In the Ukrainian language starts to assert the term "hay-po" from the English reduction of high-po.

Contents of this category of reserve managers is to identify and enhanced employees development that have the potential to hold 10-20 years of key positions in the organization.

Unlike working with inheritance, the potential employees' trainings have no targeted character - the organization prepares them to employ not a certain position, but general management positions. This is because the "hey-po" is at early stages of their career and could not adequately disclose the potential on the concrete sector of the organization.

Key role in identifying the potential employees have a personnel department, who should have professional skills of early potential determination and forecast. To hire a "hay-po" many organizations create a special development program for a period of several years involving work in different positions and in different departments, specialized training and others.

The system approach to the work with young employees with leadership potential can be an important factor in increasing the effectiveness of any organization. However, this process should be well thought and meet the strategic goals of the organization and its culture.

Questions for self-check:

1. Explain the essence of relationships and notion of the main elements of the HR organization.
2. Give the definition of personnel management in accordance with process approach in management.
3. Describe the main goal of human resource management in modern organization.
4. Identify the functions of personnel management subordination to its aim and tasks.
5. What is the main point of the personnel management model?
6. Describe the essence of the term "personnel".
7. Define personnel policy of the enterprise. Which types of personnel policies do you know?
8. What do you mean by Human Recourse Service of the organization? Identify the meaning of the official functions and aspects.
9. Discover the essence, and define the place of staff planning in the overall process of human resource management.
10. Which methods of the personnel number optimization of the organization do you know?
11. Expand content of the personnel fluctuation: physical and psychological.
12. What are the advantages and disadvantages of internal and external recruitment sources?
13. Which methods of recruitment and selection of personnel do you know?
14. What do you mean by the staff adaptation?
15. What is career guidance?
16. What is the essence of the staff training?
17. Which training methods do you know? What positive and negative sides do they have?
18. Expand the essence of the staff evaluation process and a notion of "certification".
19. What is the planning process and reserve manager preparation of the organization?
20. What is the essence of labor career management?

CHAPTER 4. CONTROLLING

Object: *knowledge system formation of the modern enterprise management conceptual principles based on the integration, coordination and activities direction of the different departments and enterprise subdivisions on the efficient and strategic goals achievement.*

Subject: *the process of effective and strategic management as a system aimed at the concrete goals achievement by all the structural departments and managerial decisions to optimize "costs - amount – profit".*

Content Modules: *essence, tasks, functions and types of controlling. Interconnection of controlling and other management functions. Management it's accounting as a basis of controlling. Budgeting as is an operational controlling instrument. Organizational-methodical basis is the creating an enterprise controlling system. The formation of target functions and the elements controlling systems. Controlling service position in the organizational enterprise pattern and its structure and composition.*

4.1. Theoretical bases of controlling

The concept of controlling appeared in the XV century, but only in the XIX-XX centuries it was spread and developed as an economic category.

The causes of formation and controlling were:

- industrial growth;
- economic crisis;
- complication of the enterprise organizational structure;
- insolvency problem;
- increasing of the informational loading for managers of different hierarchical levels;
- general cultural aspiration for interdisciplinary sciences, synthetic disciplines.

Two basic models of controlling were formed during the historical development: German and American.

The term "controlling" is used in Germany. The term "management accounting" is used in the U.S.A. and Great Britain, although the workers whose functions are keeping management accounting are called controllers.

Nowadays it is possible to point out five basic stages of controlling:

1. Controlling as a managerial accounting (30-ties and 60-ties years) - orientation on the cost management using information technology.
2. Controlling as a management information system (70-ties to 80-ties years). The development of the common information system concept, its introduction and coordination, optimization of the information flows.
3. Controlling as planning and control (beginning 90-ties years) - planning and control of the enterprise structural departments.
4. Controlling as coordination (90-ties years) - coordination of system management (management control). This figure is connected with the development of the project management, the appearance of the matrix organizational structures.

5. Controlling as coordination process of the decision-making (2000's years).

Controlling – is a system of elements of accounting, analysis, control, planning, aimed at the cost and performance regulation of the company that provides current and future business objectives and its long effective functioning.

The concept of "controlling" includes *two aspects*:

- 1) controlling as a process of integration methods of accounting, analysis, planning and control in a single system of receiving, processing and compilation of information on its management decisions base;
- 2) as the controlling system that controls the enterprise economy and is focused not only on achieving current goals in the form of profit receipt or costs minimization, but also in providing a solvent state of enterprise, aimed at achieving the global strategic goals, for example driving out the enterprise in the conditions of competition, preservation of the working places as a social factor, ecological production ensuring etc.

Controlling is the pivot around which all the basic elements of organization and management of enterprise are combined, namely:

- all categories of business processes and their costs;
- responsibility centers of the company;
- systems of planning and budgeting, which are formed on the basis of responsibility centers of the company;
- management accounting system, which is based on the responsibility centers and their budgets;
- strategic management system based on the analysis of the chain of values, strategic positioning analysis of costs and factors;
- monitoring and analysis of financial and economic activities results;
- information flows (record-keeping), which allow you to capture the current state budget accomplishment of the responsibility centers;
- detection of the deviations causes and forming of the managerial influence within the responsibility centers.

The main *purpose* of controlling – is the administrative process orientation to achieve set of goals which face the company. This means the controlling purposes are derived from enterprise purposes. The strategic purpose of this is to maintain the stability and success of the enterprise.

The specific tasks of controlling are:

- to identify the idea of deviation and requirements for adaptation, to ensure the opportune supervision and development of measures to correct deviations;
- to assist in the decomposition of overall enterprise goals into smaller goals of individual departments;
- to identify problems and to manage the departments of enterprise economic services;
- to promote the better management of enterprise profit;
- to assist in developing an enterprise rational policy;
- to assist management in decision making which are appropriate to goals.

Controlling functions are determined by the purposes posed before the organization and include those activities that ensure these goals' achievement.

There are eight major functions in controlling: goals setting; planning; operational management accounting; information function; monitoring; control; analysis of plans, results, and variances; providing the recommendations for management decisions making.

Let's consider these features in details.

Goals setting it are determination of the qualitative and quantitative goals of the enterprise. It is the selection of criteria, by which the achievement degree of the set goals should be qualified.

Planning actually means the concretization of the enterprise goals in the form of plans and forecasts, taking into account the enterprise policy from the various aspects of its activity. An important reason for planning is analysis of strong and weak points of the enterprise, opportunities and threats. Plan is a quantitative expression of the enterprise goals and development of the ways of achieving them.

Implementation planning function within the controlling foreknows:

- assistance in developing methods of planning;
- coordination of activities of various departments and enterprise services in the planning process;
- plans assessment;
- determination of whether plans meet the enterprise goals, whether they stimulate to action, how realistic is their implementation.

Controlling determines how and when is to plan properly and evaluates the probability of planned activities. It does not indicate what is necessary to plan, and is not responsible for the plans implementation.

Operative management accounting – is a reflection of the whole financial and economic enterprise activities, gives the information about the current implementation plan. As part of the controlling system it is essentially different from the accounting. Specific management accounting, unlike the accounting, is oriented on the information needed by enterprise and departments managers, support of the management decisions.

Information function is the main enterprise controlling system element. One of the main tasks of controlling – is management information support, some kind of information organization, providing of a clear and coherent functioning of information flows in the enterprise. There is such a chain in the controlling system: "initial information - controlling service - ultimate information – making management decisions".

Any information provided by the controlling system has to meet the following requirements: relevance (materiality for making management decisions), timeliness, reliability, usefulness, completeness, clarity, regularity of income.

Monitoring function forestalls:

- tracking of the processes in the enterprise, in real time;
- efficient reports analysis on business results in the shortest time periods (day, week, month);
- comparison of the target results with actually achieved.

Control function. The concept of controlling is not identical to control: control is engaged in recording and assessment of facts that were done in the enterprise, and controlling is aimed at prospects.

Control forestalls:

- the comparison of the planned and actual values for measurement and assessment of the goal degree achievement;
- setting acceptable limits of the deviations from the plan;

- analysis of variance as a basis for corrective action, the interpretation of deviations causes and concession of the suggestions for their reduction.

In the controlling system accents are displaced from a simple record of the past facts toward prospective, anticipatory control.

Function analysis and regulation. Function analysis forestalls evaluation of plans, results, deviations and serves to identify major.

Regulation means the current monitoring of the planned exponents, their comparison with the real condition, and suggestion of the corrective action in case of deviations.

On the basis of the analysis one provides recommendations for management decisions making. Taking into consideration the situation that arose, as well as future opportunities and threats, controlling mechanism determines which alternatives the enterprise has now, and evaluates them from the position of enterprise goals achievement. Based on these recommendations the manager can focus its activities on the goals realization.

Considering the controlling function, one can define specific tasks which help to realizing these functions (Tab. 4.1).

Table 4.1

Relationship of controlling tasks with management functions

Management functions	Controlling mission
Planning	Coordination of different plans and a consolidated plan development; Development of planning methods; Scheduling of plans; Concession of information for planning; Concession of the plans worked out by the departments;
Organization	Organization of accounting and control of costs and results; Structural coordination of departments
Stimulation	Stimulation of the plans accomplishment in the departments
Accounting	Conducting of financial and management accounting.
Control and regulation	Comparison of planned and actual values for measurement and evaluation of the achievement goals degree; Establishment of the permissible deviations boundaries from the plan; Deviations analysis, interpretation of their causes and development of the suggestions for reducing the deviations.
Decisions analysis Information flows	Collection of the most significant data for decisions making; Consultations on the choice of corrective measures and administrative decisions; Development of tools for the realization of the main functions of management.

4.2. Types of controlling

Financial controlling. The main task of the enterprise financial management is to maintain profitability and provide liquidity of the enterprise (the ability to fulfill their payment obligations at any moment).

Investment controlling. Controlling investment supports the decision-making process for choosing the best projects at the stages of search and evaluation. Herewith the main task of controlling investment is enterprise goals achievement in investment activity.

Innovative controlling.

The main task of the project-controlling is in overseeing the project implementation, in control and information support of effective project management.

The task of project planning presumes the formulation and setting of the project: activities (tasks), time, capacity (human and material resources), and costs.

Technological controlling.

Technology controlling can be viewed as a set of activities to improve and to develop methods for technological decision making for the entire cycle of production technology.

Ecological controlling – is a system of ecological planning and accounting, ecological control, analysis and audit, implementation of which contributes to the choice of alternative approaches to operational and strategic enterprise management to achieve ecological and economic efficiency.

4.3. Cost management in controlling

The costs – are the total loss of the enterprise connected with doing certain activities. Under the costs we understand assets reduction or increasing its debt obligation in the economical activities.

To make a proper decision manager has know which costs and benefits it will have, imagine all the consequences. Herewith the particular importance has cost classification which is a prerequisite for their further analysis.

In practice there are several classifications of costs: one can single out the traditional classification (Tab. 4.2) and classification of the features specific to controlling.

Table 4.2

Traditional classification of costs

Indication	Costs
By places of origin.	Costs of production, department, sites, technological redivision, service
By the kinds of production, works, services	Costs of products, typical representatives of products, groups of homogeneous products, one-time orders, prepared food, gross, goods, sold products
By the unity of the (homogeneous) cost structure	One-element, complex
By the kinds of costs	Costs of economic elements Costs of costing items
Regarding the production process	Major, overhead
By the calendar period	Current, long-term, non-recurring
By way of carrying value on the product	Direct, indirect
For treatment of production costs	The costs of production, Costs of period

For effective controlling organization is necessary to apply economically reasonable classification of expenses with certain characteristics (Tab. 4.3). This will not only help to keep planning and cost accounting, but also to analyze them more precisely and to identify some

correlations between certain types of expenses and to assess the extent of their influence on the cost price and enterprise profitability.

Table 4.3

Costs classification for the purposes of controlling	
Indication	Costs
By the degree of influence on the result of decisions	Relevant, irrelevant
By the degree of the production output influence on the costs level	Variable, constant, mixed
By costs expediency	Productive (effective) Unproductive (ineffective)
Which reflects alternatives	Explicit, alternative
In calculation of extra output unit production	Increased (incremental) Limit (marginal)
Depending on the time of their occurrence and assigning on the cost price	Incoming and past; of future periods
By the degree of regulation	Regulated, unregulated
By responsibility centers	Cost centers, receipts centers, profit centers, investment centers

By the degree of influence on the decisions result

Relevant (meaningful, significant) can be considered only those costs that vary according to the result of the made decisions, and those, which influence on it. In particular, costs of the past periods cannot be relevant as they cannot be influenced on. However, alternative costs are relevant to management decisions making.

By the degree of influence on the production output on the costs level

Variable costs - costs, the absolute value of which directly depends on the level (volume) of production. For example, direct material costs; wages of the main production workers (piece wage); electricity and water etc.

Regular costs - costs, the absolute value of which does not depend on the change of production volume. Regular costs per unit are changed when you change the volume of production. For example: administrative and economic costs; wages of administrative and managerial personnel; rent; property tax etc.

Mixed costs – are costs that include elements of both mixed and fixed costs. They are sometimes called *half-variable* or *half-constant* costs. For example: a piece of workers wage needs to refer to variable costs, and extra charge (for example, harmfulness) - to constant.

By the costs expediency

Productive costs are provided by the technology and production organization. *Effective* costs - are productive expenses, which as a result of income from the sale of those products, on the production of which was spent this money.

Unproductive costs – are optional, which arise in a result of the certain deficiencies in the production organization, technology infringement, etc. *Inefficient* costs – are the costs of unproductive nature, because of which the income will not be received (loss from marriage, downtime, shortages, etc.).

Those which reflect alternatives

Explicit (calculated) expenses - are actual costs expressed in monetary terms prearranged by the acquisition and use of various economic resources types in the process of production and circulation of goods or services. The sum of all explicit costs forms the prime costs.

Alternative costs mean missed enterprise profit, when the choice of one excludes the appearance of another. These costs are caused by the refusal of one action on behalf of another. Alternative costs appear in the case of limited resources. If resources are not limited, the alternative costs are zero. The concept of alternative costs is a category of exclusively administrative costs which should be foreknown, but they also may not exist.

On assumption for additional unit production

This group is paid special attention during making decision about increasing the output. *Gained (incremental) and maximum (marginal) costs* - these are additional costs which appear as a result of production or sale of an additional lot of goods.

Marginal costs are the additional costs per unit of product.

Incremental costs are the result of increased production output of the whole group of production units.

Depending on the time of cost arising and their ascribing to the production cost

Incoming (current) expenses - tools and resources which were acquired, available and can provide income. When these assets will be spent and will lose their opportunity to bring the income, they will pass to category of the past expenses.

Past expenses - are consumed assets which gave income and are not able to provide income. Past expenses – are the expenses of the previous periods, they are not substantial for the management decisions making.

Future period expenses - the costs made in the current reporting period, but those which are subjected to inclusion in the cost of production, which will be produced in the next reporting period (for example, costs for shops development which are inserted in the operation, on the preparation and development of new kinds of products). Such costs must provide income in the future.

By the degree of regulation

Regulated - expenses that can be controlled by manager.

Unregulated – expenses, which cannot be controlled by the manager.

Classification of expenses by the adjustability degree allows to understand who and how much can affect them, but does not include information on how to do this. Therefore, classification of expenses by the adjustability degree is used together with the classification by the responsibility centers. This will define the responsibility sphere of each manager and qualify his work in part of cost control unit of the enterprise (Tab. 4.4).

Classification of the regulated expenses

	Completely regulated expenses	Partly regulated expenses(arbitrary)	Weakly regulated expenses (set)
Description	Reflecte exact relationship between input and output. These are costs recorded in the responsibility centers, and their size depends on the degree of regulation by the manager	The constant reason-outcome relationship between input and output (correlation dependence-ness) is not present. Appear in the result of periodic (for example, annual) decisions making	Appear as a result of long-term assets ownership (for example, basic means)
Example	Basic materials	Advertisement	Construction of new establishment
Term	Short-term	Longer period	Long-period
Places of appearance	In the spheres of production and distribution of products.	In science-research works, marketing and customers servicing	Appear in all functional spheres

By responsibility centers

Responsibility centers accounting "ties" costs accounting to the organizational structure of enterprise. This group of expenses is directly caused by an actual organizational structure.

Responsibility center – is a segment inside of the enterprise, which is headed by a responsible person who makes decisions.

Cost center - a unit supervisor of which is responsible only for expenses. We can assume that the cost center of the controlled functions – the smallest unit, and other responsibility centers consist of cost centers. According to the cost classification, cost centers can be divided into *regulated costs centers* (primary production department) and *partially regulated cost centers (arbitrary)* (design office, the enterprise administration).

Receipts centers – is a department the manager of which is responsible only for receipts, (he can respond and for costs, but only to a limited extent). For example, sales department, which is responsible not for all cost price of the realized production, but only for the expenses for its realization.

Profit center - is the department, the manager which is responsible both for costs and for profits, for example, an enterprise within a large organization. Profit center may, in turn, consist of several cost centers.

Investment Center - is a department, the manager of which is responsible for investments, incomes and expenses, such as a new production facility construction, the enterprise within the association.

Cost Accounting Methods

There are such methods of cost accounting as a “standard-cost”, normative cost accounting, “direct-cost”.

In world practice, is widely used "standard-cost" cost accounting system ("Standard" means the number of necessary production costs, or calculated in advance costs for one unit production, “Cost” - is a monetary expression of these costs). Thus, “***standard-cost***” means the standard value of expenses.

The matter of "standard-cost" is that the account is subject to what should happen, not what had already happened, and separately reflect the decline that actually emerged. The main task of this cost accounting system is an accounting of losses and deviations in the enterprise. It is based on a clear, hard establishing of the costs standards associated with the production of some product or semi-manufactures. And the standard limits cannot be overfulfil. Their accomplishment even at 80% means successful work. Excelling of the norm means it was installed incorrectly.

With "standard-cost" can be pre-determine the amount of expected production costs and sales, to calculate prime costs of the production unit for price calculation and to make a report on expected incomes in the following year.

Advance calculated norms are considered to be firmly established rates. In case of deviations the standard norms do not change, they remain relatively constant during the all established period, except for significant changes caused by the new economic conditions, significant increase or decrease of materials cost, labor, or change of production conditions and methods. Deviations between actual and prognosticated expenses, appearing in each accounting period, are accumulated in separate department accounts and are completely written off not on the production costs during the year, but directly to the financial results of the enterprise. Revealed deviations from the established standard norms costs are analyzed to determine the causes of their appearance. This allows administration to quickly remove defects in production, to take measures to prevent them in the future.

Accounting system "standard-cost" can be represented in the form of such a scheme:

1. Revenues from products sales.
2. The standard prime cost of production.
3. Gross profit (p. 1 – p. 2).
4. Deviations from the standards.
5. Actual income (p. 3 – p. 4).

Historically the system of "standard-cost" is a prototype of the home standard accounting.

Normative cost accounting involves following such principles:

- 1) planning of the advanced calculation of normative prime cost for each product based on the existing at the beginning of the month enterprise norms and estimates;
- 2) conducting of accounting changes of existing norms during the month for correction of normative prime cost to the beginning of the next month, determination of these changes effect on production prime costs and efficient measures which have caused norm changes;
- 3) Documentation of actual costs during the month dividing them on the costs by norms and deviations from norms;
- 4) establishment of the causes and culprit of the detected abnormalities from norms for the usage of operative measures of influence;

5) determination of the actual prime cost of output as the algebraic sum of the normative prime cost, deviations from norms and norms changes.

Thus, the most important elements of standard cost are: normative prime costs calculation, norm changes accounting, accounting of norm deviations, and calculation of actual prime cost of production (work).

Normative prime cost is one of the types of advance prime cost and determines the amount of production costs by the items available at the beginning of the month norms and estimates.

The basis for calculating normative prime costs is creation of the normative basis that forms complex of all tasks, standards, norms and estimates used for planning and controlling of the production process.

Normative calculation used to determine the actual cost of products, lack of evaluation in manufacturing and sizes work in progress.

To set a target cost for the product to evaluate the routine costs of labor, materials and overhead. Then they are summed, forming a target cost to manufacture the product.

Unlike other methods in normative accounting the actual prime cost of production is defined as the algebraic sum of the cost by the norm, deviations from norms and norm changes as follows:

$$PC_a = PC_n \pm D_n \pm N_c.$$

where PC_a – actual prime cost;

PC_n – prime cost by the norm;

D_n – deviations from norms;

N_c – norm changes.

Thus the actual prime cost of the product can be defined in the following two ways. If the object of production costs accounting is separate kinds of products, then the deviation from the norm and also their changes can be referred to these types of production in the direct way. Actual prime cost of these kinds of production is determined in a simple calculation manner by the following formula.

If the object of expenses is a group of homogeneous kinds of production, the actual prime cost of each kind of product is set by the way of deviations distribution from norms and norm changes in proportion to the normative cost on the production of certain kinds of products.

For purposes of analysis quite successfully can be used cost accounting by the system of “direct-cost” (prime cost is calculated only in terms of variable costs).

Constant costs do not include in the calculation of goods prime cost but as well as the costs are written off from income during the period in which they were made. The remains of finished goods in warehouses are also measured by the variable costs at the beginning and end of the year and also incomplete production.

The method of "direct-cost" has two options:

- a simple "direct-cost" based on use of data on variable (operating) costs in accounting;
- a developed "direct-cost" at which together with variable costs and the prime cost are included direct constant costs of production and production sales.

Advantages of a cost accounting system of "direct-cost":

- allows to identify the products that have high profitability to go mainly to its release, because the difference between the selling price and the sum of variable costs is not hidden in the result of writing-off permanent indirect costs and prime cost of specific products;
- by virtue of reducing prime cost items, its regulation, accounting and control are simplified; accounting and control of conditionally-constant put on expenses are improved, since their sum at the present concrete period is shown in the income account in the separate line that demonstrates their influence over the value of enterprise income. Prime cost is becoming more “available for viewing”, and individual costs are becoming better controlled.
- provides information about the possibility of usage in a competitive dumping struggle - selling of goods at consciously low prices, that is connected with the establishment of the low price limit. This method is used during the periods of temporary reduction of demand for productions to gain markets;
- reports indented on the basis of variable costs calculation, allow managers to make substantiated decisions and make assessment of individual business segments (departments, regions, categories of customers, etc.);
- calculation of production cost is simplified and inventory assessment is made according to the current costs, required for certain products manufacture;
- the value of operating income depends directly on the volume of sales.

Disadvantages of a cost accounting system "direct-costing":

- enterprise reporting, which is based on variable costs calculation does not meet generally accepted principles of financial reporting preparation and tax system claims;
- conducting of the prime cost accounting by the reduced range of articles doesn't not meet home accounting demands, one of the main tasks of which until recently was working out the accurate accounting;
- prices, installed on the enterprise production do not contain all the expenses;
- labor intensity of the costs division on constant and variable;
- It does not give the information about the total cost price of the product.

4.4. Management accounting in the controlling system

According to the Law of Ukraine "On Accounting and Financial Reporting in the Ukraine" (1999), “*internal-economic (managerial) accounting - a system for processing*”- is a system of processing and preparation information on the enterprise activities for the internal users in the process of enterprise management.

There are also other definitions of “management accounting”. In our view, such definition most fully reflects the essence of this notion: □ **management accounting** - is the process of identification, measurement, accumulation, analysis, preparation, interpretation and disseminating of information which is used by the management group for planning, assessment and control within the organization.

The main *purpose* of management accounting is accounting organization for intercompany management, organization of the system control by the formation and cost appearance, costs and prices measurement, accomplishment of the connections of the natural and valuable production indexes and concession of the information for planning, analytical control, rationing and departments activity assessment.

Managerial accounting is not regulated and controlled by state authorities. It is organized by the enterprise leaders on the basis of the general principles, proceeding from the internal management needs.

Main features of management accounting are:

- flexibility, the ability to respond quickly to changes in the internal environment, change the criteria, figures on those, which better meet enterprise activity goals in general;
- a clear focus on final result;
- constant comparison of output costs and results in spheres and activity segments, structural departments or responsibility centers;
- handling different categories of prime cost (total, marginal, standard, etc.);
- isolation and autonomy in order to keep commercial secrets.

Generalized characteristic of management accounting is shown in Tab. 4.5.

One can distinguish seven basic *tasks* of management accounting:

- rational calculation of the production prime cost;
- analysis of the enterprise working with the division on the centers of activity (profit, profitability, prime cost, capital investment, etc.)
- plans development (forecasts) on the short and long periods depending on the level of production organization;
- choice of the optimal basis and methodology for calculation planning;
- predictions approach to the actual results in order to create the necessary management policy;
- movement accounting of material resources and finished production;
- comparison of the overall financial results with management accounting data for caring out the control.

Table 4.5

Characteristic of management accounting

Index	<i>Characteristic of management accounting</i>
The main information users	Internal information users (enterprise and departments managers, employees)
Accounting goal	Information support of management decisions making
Obligation	Is used by the decision of the company manager
Freedom of accounting system choice	Usage of the systems that produce result for internal management services
The main object of analysis	Responsibility centers within the enterprise, kinds of production, projects
Used criteria	Cash or natural measurement units, conditional measurement units, future or present value
Frequency of reporting	As far as it is necessary to meet the needs of the enterprise management
The degree of data reliability	Depends on the planning goals and enterprise control
The main requirement to information	Relevance
Responsibility	Disciplinary liability

Management accounting should be organized so as to define and achieve a level of competence that reflects best practice and ensure effective results.

At the same time one must create a level of continuous improvement. The part of this culture is a constant creative search of opportunities for creation of value within the enterprise.

Development of accounting regulation provides:

- 1) forming of a tree (structure) of incomes and expenses by the levels of information giving, planning and analysis of activity index, which are needed by the leadership at every structural level;
- 2) classification of income and expenses items with their reflection analysis in accounting in its existing form and supply of the modified nomenclature and characteristics structure for index determination that provide analysis of financial activity and management;
- 3) supplies as to changes and supplement of the existing accounts plan;
- 4) supplies as to management accounting within the controlling system, coordination, approval and development of accounts classifier and their correspondence.

To some extent, controlling coincides with management accounting, but is a broader concept, since it integrates some elements of such management functions, as accounting, planning, control and analysis.

Examining the relationship between controlling and management accounting can be concluded that the differences are mostly caused not by the fixed terminology, that becomes apparent in the ambiguous interpretation of many terms and concepts, such as “management accounting”, “production accounting”, “controlling”, but by special conditions and traditions in national economics of different countries.

Some authors and translators believe that these concepts are equivalent in content; others are trying to build different, more complicated systems of interconnections between them as elements and as a whole.

Note, that today in the U.S.A. the management accounting system meets the German system of the content controlling. In contrast, in German literature and practice management accounting as a self-concept is not used. In the theory and practice of German enterprises accounting counting house is clearly divided on the financial and production, that is why the Germans have borrowed the English term "*controlling*" and marked with it qualitatively-new phenomenon in the theory and practice of management. In the present conditions in Germany the term "controlling" is used.

Since home terminology and practice is not yet well-established in post-Soviet countries both terms are used: controlling and management accounting.

The term "controlling" has more information; it gives the character of this modern phenomenon in management and covers not only accounting functions, but also the entire range of process control of the ultimate goals and outcomes of the firm achievement.

4.5. The concept of operational and strategic controlling

As the company management is performed in two directions, respectively the two types of controlling are discerned: strategic and operational.

The main difference between strategic and operative controlling is that the first is focused on future trends, and the last, by contrast, solves the current tasks.

Strategic controlling is a component of strategic enterprise management concept. It aims at identifying the future opportunities and risks of the enterprise to ensure in future the durable potential of the enterprise.

Strategic controlling subsystem (Fig. 4.1) is determined in the enterprise by the chosen mission and development strategy and allows you to "track" the enterprise movement to the set goal.

The main task of the strategic controlling is the creation of the strategic planning system and

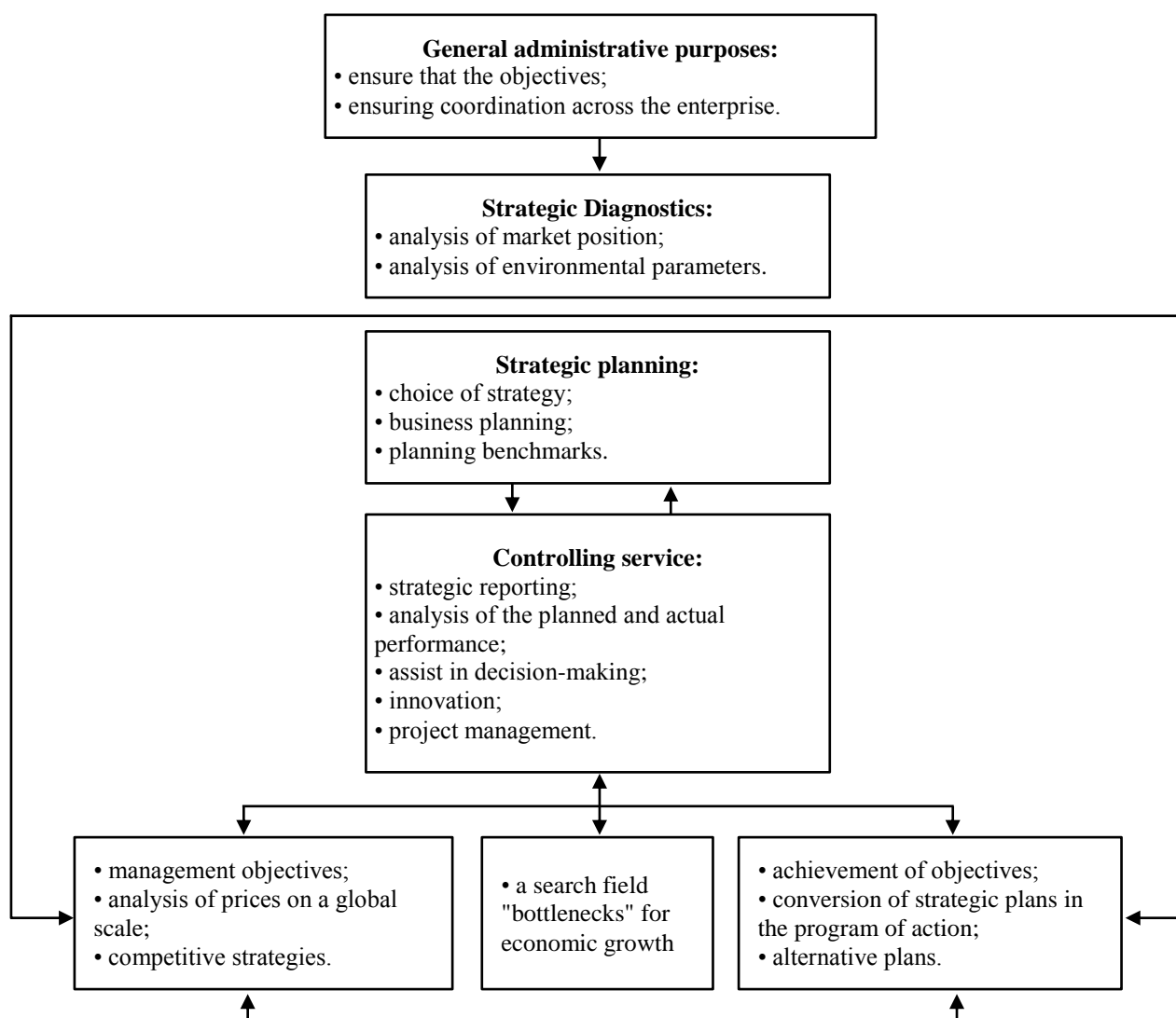


Figure 4.1 – Strategic controlling circuit current administration of strategic management.

Strategic controlling properties are:

- 1) The focus on the coordination and accomplishment of the long-term enterprise goals. Qualitative indexes of the plan or new strategies are supplemented by specific figures of operational controlling;
- 2) The ability to help the enterprise to effectively use available advantages and to create new potentials for successful activity in the future;
- 3) The lack of time limits (usually the medium-term and short-term periods are meant);
- 4) The coordination of strategic planning and control with simultaneous support of this coordination with strategic information.

The service of strategic controlling is being the internal connective link between managers and enterprise owners when determining strategy, strategic goals and tasks.

The main stages of the strategic controlling realization:

1) *The strategic planning support.* At this stage strategic controlling is involved in the analysis and development of methods and tools of strategic planning; coordinates the collection and preparation of the most important information about markets, competitors, and also about the weak and strong points of the enterprise. Strategic controlling organizes the process of choosing a strategy and strategic goals embodiment into a certain actions;

2) *The transition from strategic to operational planning.* Strategic controlling allows determining how precise and certain strategic plans to start their realization are. He creates goals for different stages of realization, evaluates the possible consequences of strategic planning.

Operating controlling is focused on short-term result. That is why its objectives and methods differ fundamentally from methods and techniques of strategic controlling.

The objectives of the operative controlling are the following:

1. Providing methodological, informational and instrumental support for enterprise managers to achieve the planned level of income, profitability and liquidity in the short term (up to 1 year).
2. Coordination of operational planning processes, monitoring, recording and reporting the company provided the modern informational system supports that.
3. Creation of adequate economic instruments to carry out targeted and situational management.
4. Elaboration of timely measures within a limited period of time aimed at elimination of actual showing deviations of those that are planned.

The special feature of the operative controlling consists in special organization of cost accounting which should facilitate decision-making process on specific areas of expenditure and reasons for their deviation, i.e. to ensure costs control. For planning purposes the most important are those expenditures, the value of which depends on the management of administrative actions. In order to distinguish the effectiveness of certain management decisions it is expedient for the internal reporting to introduce regrouping of costs into variable and constant.

The operative controlling which is aimed at accounting and cost control must provide the following information:

- cost estimate on the types and places of origin;
- data for investment computation according to areas of expenditures;
- profit and loss statement as per one month and its analysis.

Instruments of the operative controlling are quantitative figures and information about the processes that were planned and implemented. This work is based on accounting and statistical as well as operational and forecasting information. ***The following tools or methods of operational controlling*** are used:

- method of total revenue calculation, which is intended to cover fixed costs;
- analysis of sales' level, where the activity of the company remains profitable and the company operates without losses;
- budgeting;
- system of relative indices;
- ABC-analysis;
- calculations of efficiency;
- costs analysis.

The main difference between strategic and operative controlling is that the first focuses on future trends, and the latter, by contrast, solves the current issues. Preconditions, success and result

control have a different meaning for both directions of controlling. The objects of planning and control in the operational controlling remain the same, but they are strategically different.

Tab. 4.6 gives the more detailed analysis of controlling distinctions.

Table 4.6

Features of strategic and operational controlling

Factors	Strategic Controlling	Operating Controlling
Hierarchical level of development	Generally on the highest management level	Covers all levels with main focus on middle management
Orientation	On the potential	On the final result
The degree of certainty of information	Uncertainty is high enough	High Certainty
Type of problem	Most problems are not structured	Rather well-structured
Duration	Focus on long-and medium-terms	Focus on medium and short terms
Sources of information	From the external environment in the first place	From the company in the first place
Alternatives of plans	A wide range of alternatives	Limited number of alternatives
Volume of problems	Focus on definite key positions	Covers all functional areas and integrates them
Level of circumstantiation	Not high	Rather high
The main values controlled	Success potentials (e.g. increase of the market share)	Revenue, profitability, liquidity

As the real practice reveals strategic and operational controlling interact with each other closely enough (Tab. 4.7).

Table 4.7

The interconnection of strategic and operative controlling

Comparison according to	Integration Features	Operating Controlling	Strategic Controlling
Objectives	Formulation of regulation and execution of the objective, according to aggregate and sequence of events	Ensuring profitability and liquidity by means of the aggregate operational instruments	Ensuring the existence and solvency by means of the aggregate strategic instruments
Scope of validity	Enterprise Philosophy	Zone of search of the factors that impede success, in order to eliminate them	Zone of search of the factors that impede the growth of the organization in order to eliminate them
Functions	Comparison of planned and actual performance	Medium-and short-term operational planning	Strategic planning
Tasks	Adjustments of objectives according to the ability make right decisions. Accomplishment of objectives depends on the ability to put them into practice. Strategic comparison of planned and actual performance is considered as a comparison of plans and reality	Analysis of weak spots of organization, programs of cost savings, innovative programs, the calculation of the management efficiency with the help of sums of coverage, searching and elimination of the factors hindering the achievement of results, definition of limiting and key values	Analysis of potential and weak spots, qualitative and quantitative formulation of the objective, planning of growth, products and market strategy, functional strategies, conversion projects and actions, final data and results for a prolonged period

4.6. Deviations in the system of controlling

Deviation is the difference between standard (planned) and actual costs.

The value of the standard costs is determined by two approaches. According to the first approach analyzes of the actual usage of material and labour resources is carried out. The second approach establishes norms on the basis of detailed technical analysis by means of calculation.

The actual values of the variables under control are established on the basis of statistical, financial and management accounting in the enterprise.

Mandatory conditions of comparing planned and actual values are the following:

- content uniformity of values that is provided at the stage of planning;

- the existence of a common database, recognized by all participants of the control and analysis process.

The amount of controlled variables to identify deviations and analysis of their reasons are stipulated by economic expediency via the ratio of the benefits received from eliminating the causes of deviations and costs spent on their detection.

Deviations of planned and actual values may occur according to the following parameters:

- parameters of value – costs, turnover, profit, income, payments, receivables and payables, etc.;
- parameters of organizational structure – areas of cost origin, divisions, purchasing, production, marketing, design units, etc.;
- parameters of time – days, weeks, months, quarters, years.

The following *classification of deviations* is applied in the controlling system.

1. According to the content:

- negative deviations represent over expenditure at cost price of products and demonstrate specific abnormalities in technology, organization and management of production process;
- positive deviations represent saving and demonstrate the implementation of measures aimed at reducing production costs.

2. According to the type of execution:

- documentary deviations – are the production costs which are detected by the method of documentation. This method consists in the following: material and labour costs in original discount documents adopted in organization are reflected within established norms. In all cases of failure to follow the established norms costs are registered with the help of signal documents. Documented deviations from the norms are summarized in management accounting according to objects of calculation, causes and causers of deviations for calculation of actual cost price;
- calculated deviations are detected by special calculations and arise usually in accounting of indirect costs;
- unaccounted deviations arise due to shortcomings in the initial calculation system and they are discovered after the stocktaking of the work in progress remnants.

3. According to the method of payment:

- absolute deviations represent the difference obtained by subtraction one value from another;
- relative deviations are calculated respectively to other values and they are expressed in percentages. The relative deviation is mostly calculated respectively to the common index or parameter;
- cumulative deviation. Sums which are calculated with the increasing total sum (cumulative sums) and their deviations make it possible to assess the degree of past periods (months) achievements and feasible differences by the end of the planned period (year). Random fluctuations of business parameters of enterprise which arise in some periods, may lead in certain periods to significant variations in short period of time. Cumulation allows compensating random variations and identifying trends more accurately;
- temporal deviations (selective deviations). The comparison plan – fact is typical for controlling, and the comparison of actually realized values of the current period with the facts of relevant, prior period can be of interest of the analytical purposes.

Accounting of deviations is an integral part of the standard method of calculation and control of budget effectuation. The major aspects of cost accounting according to the centres of responsibility are the establishment of the standard costs and evaluation of the results by comparing actual costs with the standard ones. Deviations should be calculated separately for each costs centre

and for each group of expenses. The main problem of controlling is the organization of systematic representation of deviations.

There are two kinds of deviations accounting:

- 1) deviations reflected in accounting in the synthetic and analytical accounts: data about deviations are accumulated on cost-plus accounts, and then deviations debit on account of sales and results. This makes the creating of operating control of the costs level and results possible;
- 2) deviations reflected in accounting in the primary documentation and accounting registers outside the system of analytical and syntactical accounts. Its basis is the standard method of cost accounting on production. The major shortcoming is that the accounting of deviations is directed on detecting deviations concerning certain costs and their debiting to the cost price. This is a cost-plus method in its nature.

Deviations are regarded mainly in two kinds of accounts:

- 1) deviations which are intended to reflect deviations in the different categories of costs and results, that is spent up resources, responsibility centers, and other business segments, etc.
- 2) deviations which are identified in the process of data accounting, but those which are not referred to the costs in financial accounting, i.e. prime cost of business volume decrease and deviations according to the centres of responsibility discovered during the stocktaking.

Analysis of deviations is the key instrument of assessment of cost centre business. Current control and analysis of deviations allow the managerial system of production to change betimes: manager can influence on processes at any time without waiting for period to end.

Analysis of deviations can be realized for any centre of responsibility of the organization.

The following *approaches to the analysis* of deviations are distinguished:

1. Simple analysis of deviations. The system controls the state of budget execution by comparing the budget figures and their actual values
2. Analysis of deviations focused on further management decisions suggests a more detailed factoring analysis of the impact of various business parameters deviations on cash flow.
3. Analysis of deviations under conditions of uncertainty. According to this approach, all business parameters are recognized uncertain in their content and they are set not in certain numbers, but as the intervals of uncertainty. Control of budget execution is performed in the following way: if the actual value of the resulting parameter falls in the range of uncertainty obtained by stimulation modeling the budget execution is considered to be successful.
4. Strategic approach to the analysis of deviations. Results of the enterprise performance (budget execution analysis) should be assessed with respect to the strategy chosen by the enterprise.

Deviations can occur because of different kinds of expenditures. That is why for convenience of analysis deviations are distinguished according to factors that were the cause of their occurrence. Economic analysis of deviations is primarily the factoring analysis. Its aim is to identify and to give a detailed assessment of each of these factors.

Causes of material costs deviations are analyzed in the first place, and after that those that led to the deviations of actual labour and overhead costs from their default values (Fig. 4.2). And at

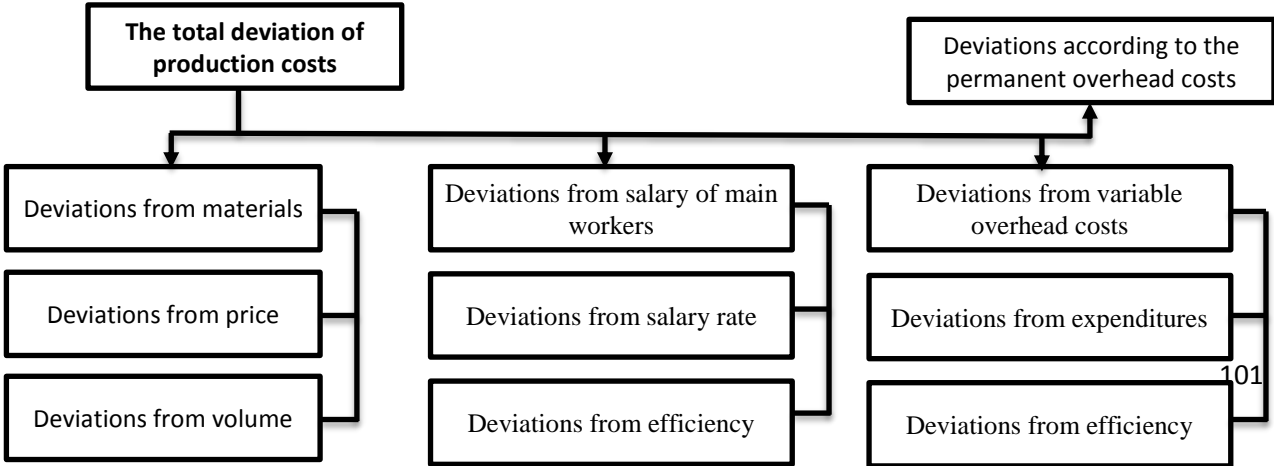


Figure 4.2 – Circumstantiation of the deviations analysis

last the analysis comes to the reasons of deviations in the index of proceeds from the sale of products.

Deviation is a consequence of change in three major factors: output, prices on resources and standards of payment as per the unit of production. The following causes of deviations may be singled out:

- non-compliance in the planned volume of production (due to changes in demand on products or difficulties related to its production, lack of facilities, working capital, etc.);
- changes the prices of resources (in terms of market instability, the more profound is the economic crisis the more difficult it is to predict prices);
- changes in the norms of expenditures: reduction (excessive norms were prior developed to accomplishment of plans), increase (if there is available an over-expenditure of resources it is necessary to find the cause and take steps to eliminate it).

For effective operational management one should identify the causes of deviations, to determine what factors caused them; to establish the responsibility; to make decisions that enable to avoid undesirable deviations in future. For this the method of chain substitutions is used in practice.

The method of chain substitutions applies the following formulae of deviations of actual variable cost from the planned cost:

- by the volume $D_V = (O_{ac} - O_{pl}) \cdot N_{pl} \cdot P_{pl}$;
- by the price $D_P = O_{ac} \cdot (P_{ac} - P_{pl}) \cdot N_{pl}$;
- by the norm $D_N = O_{ac} \cdot P_{ac}(N_{pl} - N_{ac})$;

where D is deviation;

V – is output;

N – is standard resources costs per unit of production;

P – is a unit price of resources;

ac, pl – are indexes of actual and planned values of variables.

Thus, one by one the actual values of costs are substituted in the formulae. Substitution should be started from the quantitative factors and finished with qualitative ones. This order of substitution will increase the importance of qualitative factors.

A deviation by total sum is calculated in order to establish the regular costs. In addition to that every manager is responsible for the particular part of regular costs upon which he can influence personally. Thus, causers of deviations can also be distinguished basing upon the calculation method of chain substitutions.

In order to control and analyze deviations a classifier of possible causes and causers of deviations is being worked out. A five-digit code is assigned for each deviation. The first three digits stand for a cipher code of cause, and the last two digits denote a code of deviations causer. Deviations codes are tabulated in additional combined limit card. This makes it possible to control causes of deviations in the moment of their occurrence.

The analysis makes sense if the deviation is regular and plays a significant role in achieving targeted profit.

Analysis and assessment of deviations should not be done in all cases mechanically. When the causes of deviations are obvious, there is no need to conduct a detailed study. On the contrary, at a glimpse minor and obscure deviation may demand a careful study, as its results can reveal signs and trends which in future can lead to significant problems.

Assessment of deviations must be carried out in two directions:

- *according to the acceptable limits*. Analysis of deviation should be conducted, if the deviation of any parameter exceeds the acceptable bounds;
- *according to the impact on profits*. The value of deviation rate of a particular parameter reflects primarily the quality of planning and budgeting, and it does not practically indicate any level of impact on profit. This approach presupposes the ranking of parameters which affect income in positive as well as in negative ways.

The controller's task is to analyze and prepare data about the value of deviations. If deviations are minor and do not exceed acceptable limits, the controller adds relevant functional subdivisions to the analysis, which are responsible for the deviations detected.

During the analysis of deviations the controller solves a specific task – he doesn't only establish the meaning and cause of a deviation, but also provides recommendations for its eliminating if it is an undesirable deviation, or gives references, if it is an auspicious one.

The calculation of deviations is used to assess the current operation of a company and to analyze the long-term strategic programs on the company's development which are related to investment.

4.7. Budgeting in the system controlling

Budget is a plan, expressed in natural and monetary units. It covers all areas of financial and economic activities of a company: production, selling of products, the activities of auxiliary subdivisions, management of financial flows – and it serves as an instrument for management of income, costs and liquidity of enterprise.

Development of budgets provides a periodic planning of operation of enterprise, enables to predict future problems and determine the best ways to improve strategic goals. Budgeting increases the possibility of coordination of actions and interests of different members of organization, it makes managers to substantiate their plans quantitatively and enables to realize the costs which are connected with their implementation. While making a budget manager can compare the costs and benefits of alternative actions, identify the most effective way of using resources.

Budget planning is aimed at the following objectives:

- developing the concept of carrying business: financial and economic planning of enterprise for a specified period; optimizing of costs and profits of enterprise; coordination i.e. agreement of activities of various subdivisions of enterprise;
- communication i.e. bringing plans to managers of different levels;
- motivation of managers in order to achieve goals of organization;
- monitoring and assessment of performance of local managers by means of comparing actual costs with standards;
- identification of the need for monetary resources and optimization of financial flows.

Budgeting process usually covers the following main stages:

1. Demonstration of the main directions of company policy to persons who are responsible for budgets preparation.
2. Determination of the restrictive factors.
3. Preparation of budget of selling.
4. Preliminary elaboration of budgets.
5. Discussions of budgets with top management.
6. Coordination and analysis of budgets.
7. Adoption of budgets.

In terms of controlling budget must meet the following requirements:

- be intense, but achievable. Only a balanced budget motivates its compliance;
- only the realizable budget has the right for existence. Shadow or spare budget are unacceptable. If there are several budgets, neither of them is correct;
- budget is a generalized plan in natural and monetary units
- a person responsible for budget must participate in its elaboration in order to treat budgeting with full responsibility;
- budget remains unchanged during the budget period.

Depending on various criteria budgets can be classified in the following way:

- 1) depending on the duration of action: the budget less than for 1 year; annual budget; the budget for several years;
- 2) depending on the economic units that underlie the budget: the budget according to its functional units (subdivisions); budget according to type of products; budget according to different projects;
- 3) depending on the valuation: the budget based on the full costs; the budget based on partial costs;
- 4) depending on the dynamics of the budgeting process: constant (fixed) budget; flexible budget; slide budget.

Permanent budget is fixed for a specified period. It does not change depending on changes in the level of business operation. That's why it is used for planning partially regulated expenses that do not directly depend on the volume issue.

Flexible budget shows the rates of costs and results in different volume of activity. Depending on the volume of operation variable and mixed costs change, and constant costs remain unchanged. Therefore, the flexible budget reflects rate of variable costs per unit of output and increase of mixed costs per unit of increase in production volume. This rate is the norm multiplied by the price. Regular costs are allotted separately. Estimates and plans are worked out for different levels of business activity with the help of the formula that combines costs and production volume. Flexible budget is suitable for fully regulated costs and revenue centers, as it shows how the manager can influence on expenditures or revenues changing volume of sales.

There are three main approaches to the budgeting process:

- 1) "downward";
- 2) "upward";
- 3) "upward / downward".

The "downward" approach means that the top management of company carries out the budgeting process with minimal number of managers of lower departments. This approach makes it possible to account strategic objectives of the company in full, to reduce time expenditures and avoid problems related to coordination and generalization of separate budgets. However, the drawback of this approach is weak motivation of managers of lower and middle managerial links towards the achievement of objectives which they did not elaborate and disregard of the informational source located on this level of management. That is why the "downward" approach is justified only in a strictly centralized organization or small firms, where there is no significant distance between the top management and operating units. However, this approach can be applied in the absence of middle and lower levels managers, lack of knowledge and experience necessary to develop budgets.

"Upward" approach presupposes that firstly managers of different subdivisions develop budgets of certain activity for which they are responsible. Then budgets are consistently generalized and coordinated on a higher level of management. With this approach the top management of company is mainly responsible for coordinating of budgeting and adoption of the general (combined) budget. The asset of this approach is the motivation of lower and middle links managers to achieve objectives which they develop, strengthen communication between different business units of company, which promotes the accuracy and linking of the planned objectives. The drawbacks of this approach are the increase of time expenditures to develop budgets and the probable errors if the knowledge and budgeting experience of lower and middle managers are insufficient. Furthermore, by this approach the impact of behavior and skills of certain individuals in budgeting is increased. Thus the "upward" approach is apply only if the structure of the company

provides reliable communication between its units, and middle level managers are able to develop relevant and accurate budgets.

As the practice reveals the most commonly used is a combined "upward / downward" approach, which summarizes the best moments of the two approaches considered. Within this approach the top management provides general guidelines for the objectives of the company and managers of lower and middle managerial links develop budgets, aimed to achieve objectives of the company.

Budgeting is realized in two directions (Fig. 4.3). The first direction presupposes the preparation of functional budgets, i.e. budgets of subdivisions of the company. The subdivision of the company for which a certain budget can be developed and its fulfillment is handled, is called accordingly the budget center.

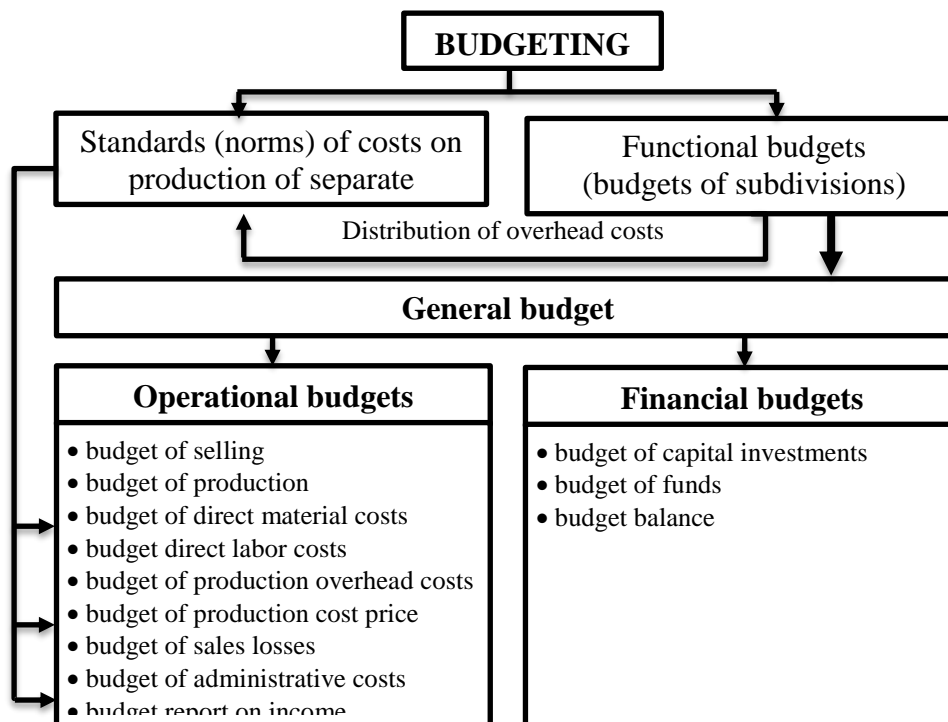


Figure 4.3 – Directions of budgeting of production activities and types of budgets

The second direction of budgeting is the development of standards (norms) on the production costs of particular products (or services).

In the broad sense budgets are divided into two basic types: current (operating) budgets that reflect the current (production) activity of an enterprise and a financial plan that represents a forecast of financial statements.

The main interconnections of budgets are shown in the Fig. 4.4.

The assets of budgeting are the following:

- positive influence on motivation and mood of the staff;
- the possibility of coordination of the enterprise in its whole;
- the possibility of timely corrective changes;
- the opportunity of learning from experience of budgeting developed in past;
- the opportunity to improve the process of resource allocation;
- facilitating of communication processes;
- the assistance for low link managers to understand their role in the organization;

- the opportunity for fresh employees to understand the "direction" of the enterprise, thus helping them to adapt to the new team;
- its usage as an instrument for comparison of achieved the desired results.

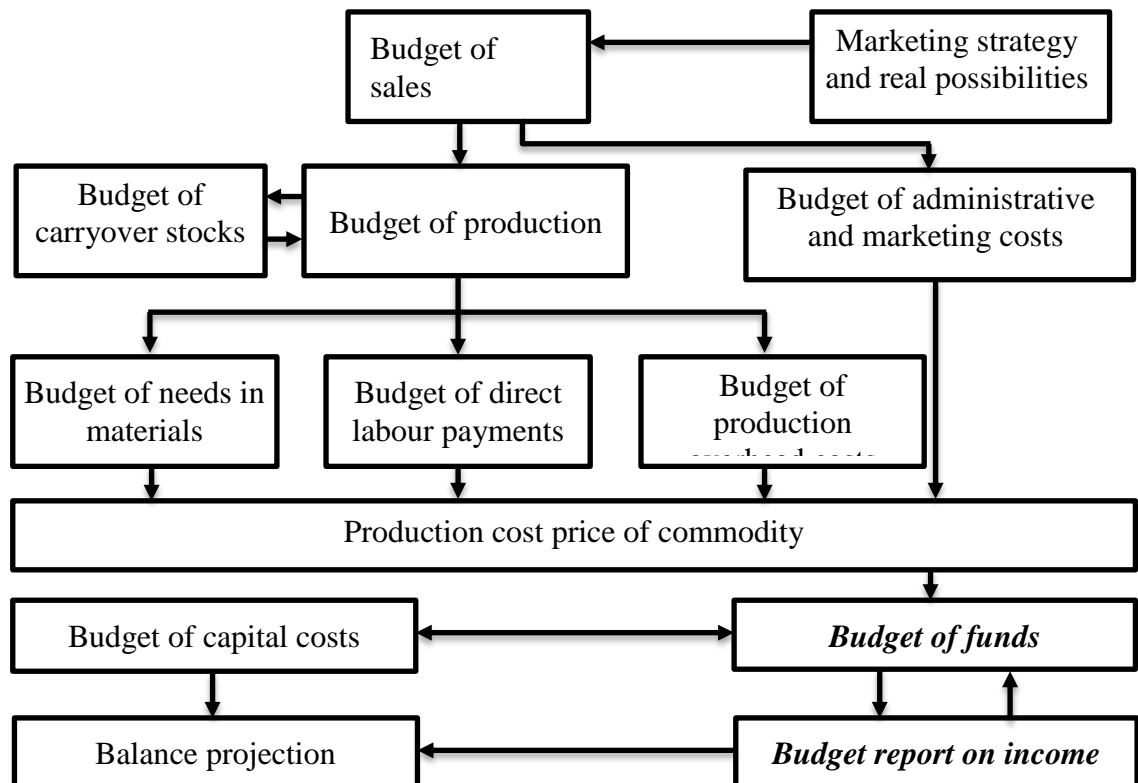


Figure 4.4 – Interconnection of budgets of manufacturing enterprise

The drawbacks of budgeting include the following:

- different perception of the budgets of different people (for example, budgets are not always able to solve current problems, they do not always reflect the causes of events and deviations or take into account changes of conditions; not all managers have sufficient training to analyze financial information);
- complexity and high cost of budgeting;
- lack of any influence on motivation and results of the work, if not every employee is aware of that budgets, but instead of that they are perceived solely as an instrument for evaluation of employees and tracking of their errors;
- budgets require high labour productivity from employees; in their turn, employees counteract to this, trying to minimize their amount of work, which leads to conflict and causes depression, fear, and therefore reduces efficiency of work;
- contradiction between attainability of goals and their stimulating effect: if it is too easy to achieve goals, the budget will not have any stimulating effect for productivity increase; if it is too difficult to achieve goals the stimulating effect disappears, because no one believes in the possibility of achieving goals.

The condition for successful functioning of the controlling system in the company is its qualitative projecting, during which subsystems, components and methods of their combinability in space and time, conditions of the system functioning are defined and the most effective combination of people, machines and informational technologies are selected.

Once the top management has satisfied itself that it is necessary to implement the controlling, a new question arises whether it should create an independent controlling service or distribute controlling functions among the existing structural units – the planning department, accounting and economic service. Below there is a list of pros and cons that can be the basis for manager’s decision (Tab. 4.8).

Table 4.8

Assets and drawbacks of the controlling service

«Pros» of the organization of the controlling service	«Cons» of the organization of the controlling service
There is a particular individual (controller) that is responsible for the work results and duties assigned	Company will have to change the organizational structure of management
Information on financial and economic state of enterprises will be concentrated in one place, and it can be quickly obtained. The company can quickly introduce of uniform standards and planning regulations, accounting and reporting by subdivisions which facilitate the computerization of the managerial process	Some problems will arise in subdivisions of the company where certain functions will be excluded, and instead of them additional functions will appear. It may be hard to find a specialist who could work as a controller
Plans of all subdivisions will be better coordinated and checked for veracity, if only one service deals with this issue. Tendencies to isolation of subdivisions will be decreased.	There is a danger of excessive increase of influence of the controlling service on other subdivisions that will cause discontent in the team

The question whether to create an independent controlling service at small firms or not, is solved mostly without any alternative: not to create. At such firms the following scheme is most frequently used when an expert, who works as a controller, works in the department of accounting and is straightly subordinated to commercial director.

At medium-sized enterprises there are two basic ways to create a controlling service:

- controlling service is organized according to the functions of management. The controller or group of controllers are responsible for maintaining of each function;
- controlling service is organized in accordance to functional areas of the enterprise (production, sales, purchase, finance). The controller or a group of controllers are appointed to each area.

Controlling services at the big enterprises are mostly independent units where dozens and sometimes even hundreds of employees may work.

In practice the following variants of controlling service positioning are met in the organizational structure of the enterprise:

- controlling service is part of financial and economic units and thus it is subordinated to the deputy director of economy and finance (CFO);
- controlling service is basically an independent structure and is directly subordinate to the director of the enterprise.

Creating a controlling service at the company, a number of requirements should be taken into consideration. Controlling service should be able to:

- obtain the necessary information from its accounting, financial department, planning and economic department, sales department and logistical support;
- organize with the help of other economic services collection of additional information necessary for its analysis and conclusions that can not be found in existing financial and economic documentary services;

- implement new procedures for collecting of analytical information on a regular basis;
- quickly bring the information to the attention of top management.

The following variants may be applied as the basis for creation of controlling service structure of government.

Variant 1. A structure in which the subdivision controller is disciplinary subordinated to the linear manager of the corresponding direction and functionally to the chief controller.

This variant has the following assets: determination of the sphere of the controller's responsibility towards the direction, as well as provision of steady and independent position towards other subdivisions' chiefs of the hierarchical level of management under consideration. The main drawback of the structure under consideration is that in case if the subdivision manager wants to submit sampled information to the top management, he can do it easily, as the controller is disciplinary subordinated to him.

Variant 2. A structure in which the subdivision controller is disciplinary subordinated to the controller of the higher level of management and functionally to the chief of the respective subdivision level.

Such structure of government affirms the independence of the controlling service at the enterprise. The subdivision controller is responsible for the results of the subdivision (direction) performance, which he operates. However, within this structure of government there are necessarily problems which arise between the linear subdivision chief and the controller, whose work the higher controller assesses. Thus, to solve the problems which arise, one should apply to the top management.

Variant 3. Structure in which the controller is under the leadership of certain managerial level and performs his functions and tasks by its order (it is a staff structure of government of the controlling service). The controller doesn't adopt his own decisions, and only gives advices if there is a request from the chiefs of subdivisions or by the order of the subdivision chief. In this scheme the controller actually performs the function of the internal consultant of the company. Of course his advices and recommendations can be viewed seriously, only if the linear manager supports them. According to this variant the controller doesn't have any opportunity to develop and implement new instruments of controlling in subdivisions.

General experience of controlling in Western countries shows that there is the following rational structure of the corresponding service: chief of controlling, controller-the-supervisor of branches and subdivisions, controller-the-specialist in accounting, controller, and controller-the-specialist in information systems.

The controlling subdivision chief is the most qualified specialist with sufficient work experience at the enterprise, who knows from "inside" how accounting and planning department are organized there.

The chief of controlling service is responsible for the following:
confidentiality;

- quality of outgoing documentary, analytical calculations and projections;
- correctness of usage of methods, techniques and instruments that enable to get accurate, reliable and objective information about the effectiveness of the enterprise business and its subdivisions;
- completion of the procedures established by regulations timely;
- failure to perform fully his duties and disuse of rights according to the official regulations.

The responsibilities of the accounting specialist in the controlling subdivision include the following:

- developing procedures of transmitting data from accounting to the analyst;
- control over the collection and analysis of actual accounting information;
- working out propositions on optimization of the accounting process from the position of the analytical service;
- economic examination of managerial decisions.

The duties of the controller-the specialist in information systems are the following:

- assessment of the expediency of expert analysis system automation;
- evaluation of options and propositions of the department of automation information systems;
- development of forms for automated data collection;
- optimization of record-keeping at the enterprise;
- coordination of service work with other structural subdivisions of the company;
- assessment of the quality of functioning of the existing automation systems of financial and economic activities at the enterprise and provision of suggestion to improve the performance of these systems.

Once the decision about implementation of a controlling system is adopted and its executors are appointed, a new stage of instrumental base of controlling formation begins. It presupposes the development of the following:

- system of planning and budgeting at the enterprise;
- methods of calculation of marginal profit of the enterprise, its certain subdivisions, products, customers and markets;
- methods for calculating costs according to their types, places of origin and products;
- reporting system targeted at specific users within the enterprise;
- methods of calculation the efficiency of investments and current activity of the enterprise;
- methods of analysis of deviations of planned and actual values, etc.

On the next stage controllers should demonstrate the effectiveness of instruments developed and convince managers of the necessity of their practical implementation. As a rule this stage lasts quite a long time: 2-3 years. The main features of the "adaptation" of controlling the current activity of the enterprise are the following:

- accurate and clear language of the performance results of the objects under analysis;
- convincing interpretation for the enterprise managers of the results of activity of their subdivisions;
- a certain independence of comptrollers;
- a friendly and trustful attitude of "customers" (managers) to controllers;
- readiness for collaboration and communications.

The next stage, where controlling already has strong positions at the enterprise is characterized by the following features:

- satisfaction of managers with the results of controllers' performance;
- mutual trust, increase in volume of cooperation and communications;
- improvement in performance of subdivisions that use controllers;
- subdivisions managers of the enterprise in their operational activity have no need of controllers;
- a higher hierarchical level of the controlling service in the organizational structure of the enterprise and expanding the range of tasks to be solved.

The emergence of the above mentioned characteristics suggests that the first stage in establishing the controlling system is finished: controlling service is organizationally and

instrumentally developed, and the controlling system has received recognition and proliferation in subdivisions of the enterprise.

There is a probability of the next stage of controlling system implementation for many enterprises, which is the stage of development. It exists however in a very distant prospective. The signs of its beginning may be the following:

- controller performs a function of a leader and moderator during the formation of key performance figures of enterprise for planned period;
- controllers master new spheres of activity at the enterprise, for example, controlling spreads in functional subdivisions;
- establishing of cooperation with top managers during the development of long-term objectives of the enterprise;
- emergence of strategic controlling subdivisions in the service of controlling.

There are three most common approaches to bring reforms into the organization: "step by step", "bombing" and "planned evolution".

The "step by step" approach for controlling implementation presupposes minor changes in the old management structure with slow progress towards the objective. The asset of this approach is the lack of significant resistance to changes that took place within the organization. The main drawback underlies in danger of delaying the restructuring process, which can cause complete cessation of implementation.

"Bombing" involves intense and decisive changes of the old control system. As a result of this approach elements of controlling system can be quickly implemented, but there is danger of considerable misunderstandings within the organization.

Approach that is based on the principles of "planned evolution" allows to some extent to use assets of the above mentioned approaches and to reduce the resistance to the controlling implementation process.

The criteria used in evaluating the effectiveness of the controlling department can be divided into three groups:

- 1) increasing the efficiency of the enterprise performance in the purpose-oriented parameters which are achieved owing to the functioning of controlling department (for example, reduction of production costs);
- 2) quantitative figures that directly allow to evaluate the controller's work (for example, the number of requests processed by controllers, the availability of arithmetic errors in calculations);
- 3) performance of the task of the department (for example, formation of management accounting system).

Questions for self-check:

1. What is controlling, what are its objectives and functions?
2. How can be explained the syntactical character the concept "controlling"?
3. With which managerial functions is controlling connected?
4. Give characteristics of the task of controlling. What is the interconnection of the tasks of controlling with the functions of management?
5. What is the nature of costs? What are the relevant costs? Give characteristics of the most important costs for controlling..
6. Why expenditures are the major object of controlling?

7. Explain the concept “center of responsibility”. Give classification of the types of centers of responsibility.
8. What are the assets and drawbacks of cost accounting system "standard-cost"?
9. What is the peculiarity of cost accounting system "direct cost"?
10. What is the standard cost accounting based on? How is it connected with the standard cost?
11. Essence, objectives and principles of the management accounting.
12. Which concepts of management accounting do you know? What is their nature?
13. Are the concepts “controlling” and “management accounting” identical?
14. What is the nature of strategic controlling? What are its main constituents and instruments?
15. What are the peculiarities of operative controlling? Compare it with strategic controlling.
16. What is the nature of deviations, their accounting, analysis and assessment in the system of controlling?
17. Give the definition of budgeting as one of the instruments of operative controlling.
18. What are the assets and drawbacks of budgeting?
19. What types of controlling according to directions of activity do you know? Give the brief characteristics of them.
20. How can the position of controlling in the organizational structure of the enterprise be determined? Is it always reasonable to organize a particular controlling service at the enterprise?

CHAPTER 5. OPERATING MANAGEMENT

Objective: forming of ability to develop operating strategy, to create and use branch operating subsystems.

Subject: conformities to law of planning, development and effective use of the organization operating system.

Content modules: types of operations, operating cycle, branch features of operating functions. Operational system and component subsystems. Expressed competence, competitive advantages. Forming of the operating strategy. Strategic, tactical and operative planning of operations. Operative management and control of production centralized traffic. Aggregate planning. Placing of powers, scales and spatial organization of activity. Management logistical support.

Control of dependent inventories and independent demand.

Principles of organization, distribution and co-operation of labour, classification of workplaces. Planning of works and setting of norms of labour is after operations. Working environment and terms of labour. The technical for Coujo going is near development of operations. Management of quality. Management of project.

5.1. Basics of operating management

An operating management embraces all aggregate of administrative decisions that provide the enterprise achievement of the set aims of his functioning. The tasks of operating management are supply, production, realization, financing, investing (Tab. 5.1).

Table 5.1

Tasks of operating management	
Industries	Tasks of operating management
Supply	To define in every period additional requirement in labour, material resources and equipment
Goods production	To expect productive program on a current period
Products (services) realization	To define the realization structure of markets and wares and policy of prices on the investigated period
Financial activity	To set a need in crediting
Investment policy	To approve decision about investments in NDVKR, in development of technology and production organizations, advertisement and organization of trade

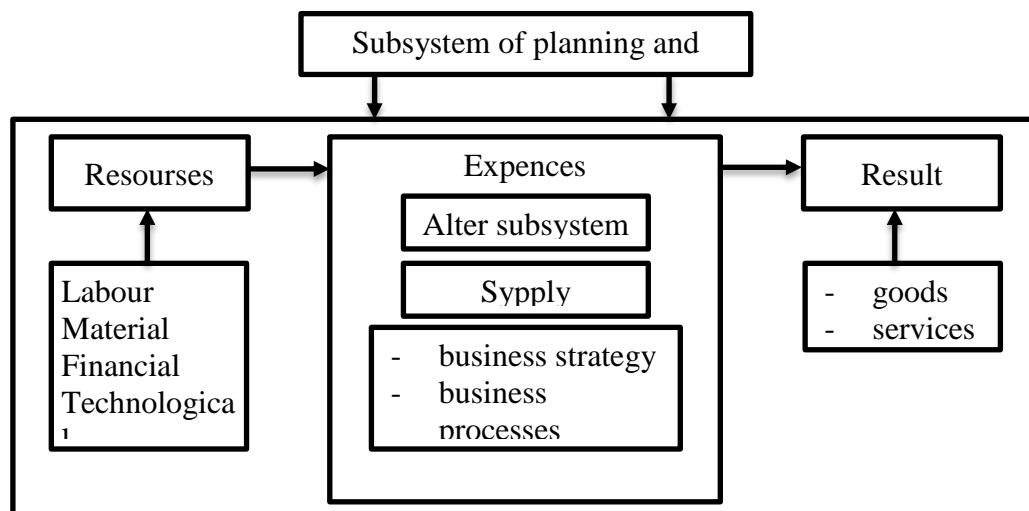
The operating management is a management of productive processes that are aimed to transformation of resources on goods and services. The process of transformation requires organization. Due to intercommunication with a production an operating management is often named the management of productive operations.

A concept "**operation**" means the production of the articles of the personal or productive consumption, implementation of inferior works and grant of services. Therefore a term "operation" is far wider for a term "production", for the first means not only producing of goods but also grant of services. According to it, operations, as the types of activity, one must consider as production, supply, transporting and service.

The essence of the system approach to the operating management consists in the aggregate of interconnected constituents, each of that contributes in description of the unit. The basis of operating management is the operating system.

Operating system is a complete system of productive activity of any organization (object), which is an aggregate of three interdependent subsystems (Fig. 5.1):

- subsystem of planning and control (provides, informs about the condition of a general system and unaccomplished production);
- altered (alters a primary quantity into an output result);
- supply subsystem (provides the necessary supply functions of the alter subsystem).



Th **Figure 5.1 – Intercommunication of the operating system elements** ie market conditions of leading business.

The operating management forms the operating system strategy, attracts capital goods for the achievement of efficiency. Thus, the operating system, from the technical point of view, is the sequence of factors and operations presented as a following scheme: resources - charges - result.

Resources of the operating system are the guided factors of production, that inherent cost properties and ability to convert. Resources, as entrance factors of operating activity, are divided to labour, material, financial, technological, informative ones.

Operating strategy is a development of general policy and plans of the resources firm use, that are sent to a maximally effective support of long-term competition strategy. Development of operating strategy consists in:

- correct determination of competition requirements to the production;
- development of plans, that will guarantee that operating possibilities will be sufficient for implementation of these requirements (**operating possibilities** are the brief-case of possibilities that are necessary for adaptation to the changeable queries of firm clients in relation to its products and services).

The estimation of operating strategy foresees comparing of job performances with the organization's mission and aims. Thus under the mission of organization one hast to understand the clearly expressed reason of its existence.

The sum of the interconnected basic, subsidiary and serving processes as a result of which resources grow into the finished goods (services) presents **an operating process**. The efficiency of the operating process depends on time of its realization and degree of continuity. An operating process can be differenciated under the next criteria:

- by a volume and maintenance of the productive program;
- by the time, that is at the enterprise disposal;
- by the space that is shown in a floorspace - workplaces and machines.

The operating cycle is an interval of time between acquisition of supplies for realization of activity and money (equivalents of monetary resources) receiving from realization of produced from them products or commodities and services.

An operating cycle is a period of complete turnover of all sum of circulating assets, during which a change of some of their kinds takes place.

By the criterion of efficiency, that shows attitude of the finished products to output components in a productive process, and also characterizes the use of resources for receiving finished products one must understand the productivity.

The productivity can be calculate by the formula:

$$P = \frac{G}{R_l + R_m + R_c + R_p + R_{i.t.}} \quad (5.1)$$

where P is the operating system productivity,

G are made goods or services (products),

R_l is labour resources;

R_m is material resources,

R_c is capital resources,

R_p is power resources,

$R_{i.t.}$ are informatively-technological resources.

The productivity of enterprise (organizations) is a balance between all factors of production (material, financial, human, informative etc.), that provides the greatest effect at the least charges.

The productivity can be measured by different indexes:

- by the partial productivity;
- by the multivariable productivity;
- by the general productivity.

The regulation the operating system productivity consists of such elements:

- providing the basis for regulation;
- development of strategic plans of the program productivity feasibility study;
- development the approaches to strategies and methods of measuring and estimation of the productivity.

The operating system management on the criterion of the productivity is a process, which foresees the strategic, tactical and operative planning, the permanent control of the realization of the accepted optimal decisions in accordance with a concrete situation.

5.2. The strategic planning in the operating system

The strategic planning is an adaptive process, that foresees regular development and correction of strategic plans, revision of measures of their use in the operating system on the basis of continuous control and estimation of changes that take place outside and inside the enterprise. The reason for the directionfinding of development of the operating system strategic plan is an analysis of alteration subsystem.

The alteration subsystems are differentiated after:

- a volume and character of resources consumption;
- the type of the alteration technology;
- character of products.

By the type of alteration process (technologies) the operating systems is divided into three basic groups:

- 1) products alteration or implementation of services by the separate operations (functional);
- 2) stream (linear) products alteration;
- 3) project products alteration.

The alteration by the separate operations has the following features:

- an arrangement of productive processes on a functional feature, for example, an area of lathes, an area of milling machines, or an area for machines washing, an area for prophylactic review, an area for baskets repair etc.;
- the processed products move on areas, and if it is services, a client moves along areas;
- a comfort at a mass production with the variable motion route of the altered objects;

- the traditional problem is a concordance of different routes with the aim of minimization of business hours charges for implementation of the complete cycle of works.

The stream alteration has the following features:

- an equipment is formed in the form of a linear scheme, that allows the products to move linearwise from a bench to a bench, passing a complete technological cycle to the exit of the finished product;
- the altered products move standardly (an unchanging route) after the technological chain of equipment;
- is used in the mass production of a conveyor type, in the continuous production (casting, chemical, extractive cycle);
- the traditional problem is different labour intensiveness (machinery capacity) and complication of alteration on the different pieces of equipment that requires the concordance of power of these units or forming of intermediate supplies.

The project alteration has the following features:

- all productive resources are formed around the created object;
- that are not products, but resources of production that are moving;
- is used in building, where for implementation of concrete project the resources that are in movement around the created building are delivered to the building area;
- is used in case of implementation of individual projects and has non-standard (individual) character;
- the traditional problem is the rational (optimal) concentrating of resources on the ground for implementation the project with the aim of minimization of the ordering fulfillment term.

The strategic management determines such basic points:

- optimization of the productive program;
- a charges management (controlling and cost accounting);
- a productivity management;
- the firm updating from the point of view of the products strategy;
- placing of productive objects.

All these questions are grounded on the correlation of charges and results. Let's review these questions more detailed.

Optimization of the productive program in an operating management consists in determination of the processing subsystem type and development such an algorithm of the use of the enterprise productive resources that will provide the most effective correlation between the productive program and charges on its realization.

Taking into account that the type of processing subsystem is predetermined by the type of production on an enterprise (mass, serial, single production), such ways of optimization of the productive program are determined:

1. If the production belongs to the project type (an individual order), the productive program on a certain period is not simply planned and a labour process depends on the current order book. The lack of such a type is a complication in the evaluation of the use of present power (possibilities) degree of the operating system.
2. If the production belongs to the serial type, they form an order on the lot and start a technological line (the productive program is developed not always, thus power is already known). There exist the probability of combination of external individual and internal serial productive order (for example, the expensive prestige brands of cars are produced after an individual order, and details are produced serially), and also combinations of external serial (lot) order that does not recover power of enterprise with an excessive production to the store place.

3. If the production belongs to the continuous (mass) type (metallurgy, mining enterprises, chemical industrial complex), obligatory complete loading of production capacities that in some cases can vary in a result of change of basic technological process speed. In this case the work to the finished store is inevitable.

Such question of strategic management as *a charges management* is fully based on the elements of controlling and cost accounting. A necessary condition for the decision of this question is determination of difference between the results of economic activity and charges that had stipulated this activity. Just in determination of administrative actions, that are sent to minimization of these charges consists the essence of the operating strategy development sent to the effective use of resources of the operating system.

The degree of efficiency of the resources use of the operating system is predefined by such questions of strategic management, as *the productivity management*, what we have already mentioned in the point 5.1.

The firm updating from the point of view of the product strategy consists in research of competitive environment and demand determination that influences on forming the organization volumes production. The considerable is determination of the index of the expressed competence and criteria of competitiveness.

The expressed competence it an index that characterizes the enterprise possibility to produce the products of the best quality, than his competitors, i. e. to keep a competitiveness, that allows to attract and keep a consumer with clearly certain demands.

For example, an enterprise that is engaged in delivery of commodities can have a maximal park of new trucks in its order, but the expressed competence will not be attained, as the park characteristics are not certain for its competitiveness, if the considerable part of clients requires delivery of small loads.

The criteria of competitiveness are:

- the minimization of total charges on a unit of products;
- championship on technical descriptions of products that is produced;
- a high reliability and longevity of producible wares;
- the assured time of delivery;
- the wares "individualization" on the requirements of customer;
- the flexible adjusting of the output products volumes.

The developed of the question related to *the productive objects placing* consists in the determination of the following criteria:

1. Closeness to the consumers (the near location of production and consumption guarantees that interests of consumers will be quicker take into account during the creation of new types of commodities). The basis for a decision-making on the occasion populations serve the data about the population character).
2. Business climate. The research of business climate consists in determination of the companies that work in the same industry; determination entrepreneurial activity in a separate market segment; the presence of the proper legislation in the business field; support of entrepreneurial activity by the local authorities, and the possibilities to grant the subsidies and tax deductions.
3. General costs that include: the ground cost, the cost of buildings, payment of labour force, taxes, power charges. The criterion of research of general charges is their minimization.
4. Infrastructure that forsees :
 - the ramified transport system;
 - need in electric power;
 - telecommunications.
5. Quality of professional preparation of labour force that means :
 - an educational and professional level of local workers;

- readiness and methods to education.
6. Providers this is (presence of their high-professional and competitive network).
 7. Location of other objects of company, that influences on an assortment volume of products that is produced by this object.
 8. Free trade zones (these are the closed regions that are under surveillance of custom service and where the commodities of foreign production are given for sale without usual custom formalities).
 9. Political risk (for foreign investors).
 10. State barriers (that do not have legislative force on entering into the industry and location of objects, but require an account).
 11. Ecological requirements:
 - influence on the environment;
 - financial consequences of ecodestructive influence;
 - interrelations are with population.
 12. Characteristics of a country-consumer. The educational level and quality of life of local population are taken into account.

5.3. Aggregate planning

The aggregate planning - is determination of levels of the production supplies, subcontract, the quantity of labour force of an enterprise during a planning period from 3 to 18 months, id est in a medium-term period with taking into account data of the forecast demand, production capacity, general supply condition, quantity of workers, relative amount of units of material stream, that are used by the developer of plan.

The basic idea of aggregate plan consists in the achievement of approximate balance between demand and operating possibilities of organization. The strategies resulted in the Tab. 5.2 are determined for this purpose, that are:

- Passive (do not foresee influence that changes demand for goods and services);
- Active (try to influence).

In practice of management the mixed strategies are more frequently used. They use a combination of variables that allow finding a more economic aggregate plan, and simple ones.

Table 5.2

Active and passive strategies of the aggregate planning

<i>Passive</i>			
Strategy	Advantage	Lacks	Peculiarities
1. Change of supply level depending on demand	Change of working level takes place constantly or is absent	Increase of charges on a storeholding at the increase of demand, that causes a deficit and lost of the sale volume	Is used in a production, but not in service
2. Varying of labour force quantity by hiring and firing in accordance with demand	Allows to avoid charges for other alternative variants	Increase of charges on the studies of the again accepted workers	Is used wherein unskilled labor is needed that gives an additional profit
3. Varying of rates of production is by the use overworks or temporal downtime of	Allows to adapt to the seasonal variations	Payment for overwork; the decline of the labour productivity	Adds elements of flexibility to the aggregate plan

equipment			
4. Subcontract	Provides flexibility and smoothing of output producing	Loss of quality control; diminishing of receipts; the probability of a client's loss	Is used in a productive sphere
5. The use of temporal workers (equipment)	Requires less charges and is more flexible comparatively with the permanent workers	Expense on a hiring, firing, study that weakens the operative planning	Is used for low qualified works and territories with surplus labour force
Active			
6. Varying of demand by means of advertisement prices	The outage of equipment is absent and customers are constantly present	Complication of demand concordance and providing its redress	Cleanly market strategy: demand - offer
7. The delay of performing the orders during the period of rush	Allows to avoid overworks and hold powers at a permanent level	Customer can appeal to other producer	Is useless for consumer goods, is used in a car service
8. The production of different season products	Avoidance a process monotony; the complete use of resources	It is hard to find workers that posses all skills and knowledge	There exist risk of unfinding target markets for products

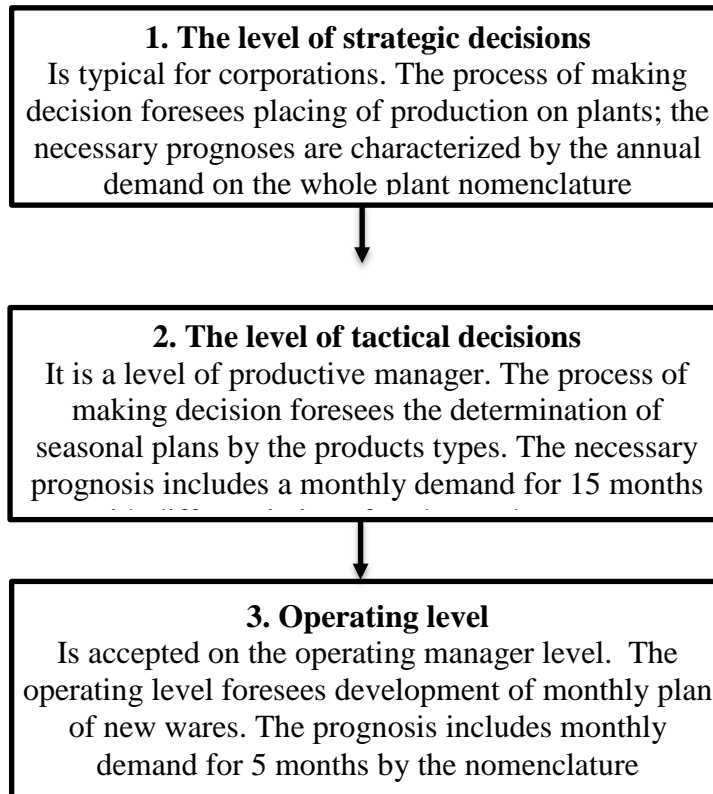
To get a complete description of any method of labour organization, one leads its research. Such methods of aggregate plan as intuitional, mathematical and graphic ones are used for this purpose. Let's study them.

The intuitional methods foresee the adjustment of the last year plans with thir analysis and introduction of perspective plans and approaches. To *mathematical methods* belong:

- Simplex-method;
- Linear rules of making decision;
- A model of managment coefficients (as a result on the basis of experience and presentations of manager models of regressive analysis are made);
- A computer modeling.

A graphic method is based on the use of graphic and tabular Excel technique (in its basis lies a method of tests and errors, that allows to examine few variables simultaneously and to compare the planned power to that exists).

With the aim of adaptation of the aggregate plan to the practical terms of application a disaggregating process is conducted in practice of management. **Disaggregating** is a transition process from an aggregate plan to more a detailed one (operative, calendar planning). A disaggregating process is related to the certain enterprise levels of hierarchy (Fig. 5.3).



5.4. Management of the supplies of dependent and independent demand

Supplies are every resource that is used to satisfy a current or future necessity.

For example, the enterprises supplies present nearly 40% of total investment capital.

The supplies *functions*:

- accumulation that presents the dependence of supplies volume on the seasonal changes of demand;
- protecting from a price and inflation change;
- charges management depending on the order size change.
- Control supplies *systems* :
- supplies classification measureable in units of supplies, ABC-analysis;
- inventory.

Lets study these systems more thoroughly.

ABC-analysis is a distribution of supplies on three groups on the basis of their annual cost that is shown in hryvnyas. Hence, the class "A" of the names units is characterized by a high annual volume. Their specific gravity presents 15% of the total amount of supply units while the supplies are able to provide 70-80% of total supplies value.

The class "B" of the names units is an average value of annual volume of supplies units. They present nearly 30% of the total units names number and 15-20% of the total volume in monetary items.

The class "C" of of the names units presents the 55% of incurrence names and only 5% of annual volume of charges.

Taking of inventory of supplies is important to know what resources are owned by a firm, and to pay attention to those names of supplies that are really needed. For this purpose supplies are yield to taking of inventory and system of public accountant verifications. The cycles of calculations are based on the classification that was got in the ABC-analysis, as a result of which the units of names are counted up, are compared with data of a current account, and, hence this verification, inaccuracies are documented.

Verifications by the group of the name units "A" are held once in a month, by the group of the name units "B" - once in a quarter, and by the group of the name units "C" - once in a half-year.

- Case supplies models assume that demand on a certain good:
- does not depend on demand on other products (demand on irons does not depend on demand on coffee-pots);
 - depends on demand on other products (for the production of one auto 4 wheels are needed).

There exist the next models of independent demand supplies:

1. *A model of economic order this is (a model with a fixed volume, Q-model).*

The principle of its action is based on the determination of concrete moment of time, when it is necessary to place the order that corresponds to the certain level of supply (to the point of order).

The level of supply is determined as a remain of materials before the last delivery taking into account the amount of the got materials and exception of the spent amount (Fig. 5.4).

The basic economic criterions in this system are the general charges on supplies creation that are described by the equation:

$$TC = DC + (D/Q) \cdot S + (Q/2) \cdot H \quad (5.2)$$

where TC are total annual charges;

D is an annual need in material;

C is a unit cost of the buying material;

Q is an amount of material, that must be ordered.

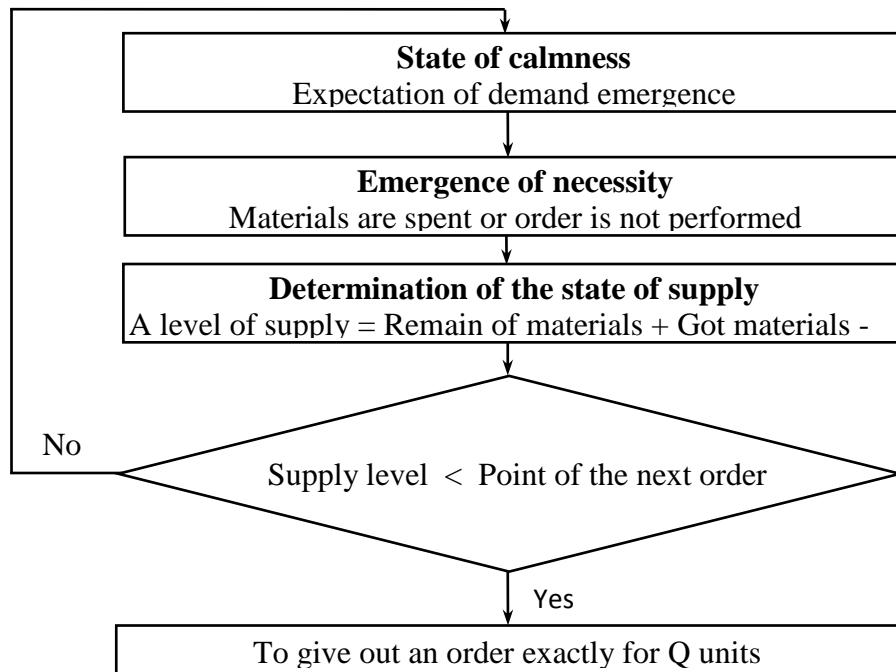


Figure 5.4 – Algorithm of the economic order model

The optimal amount is named by the economic size of order and is calculated by the formula:

$$Q_{opt} = \sqrt{\frac{2DS}{H}}, \quad (5.3)$$

where S are charges on placing one order;

H are annual charges of storage.

Dependences between these sizes are expressed graphicly in the following way (Fig. 5.5):

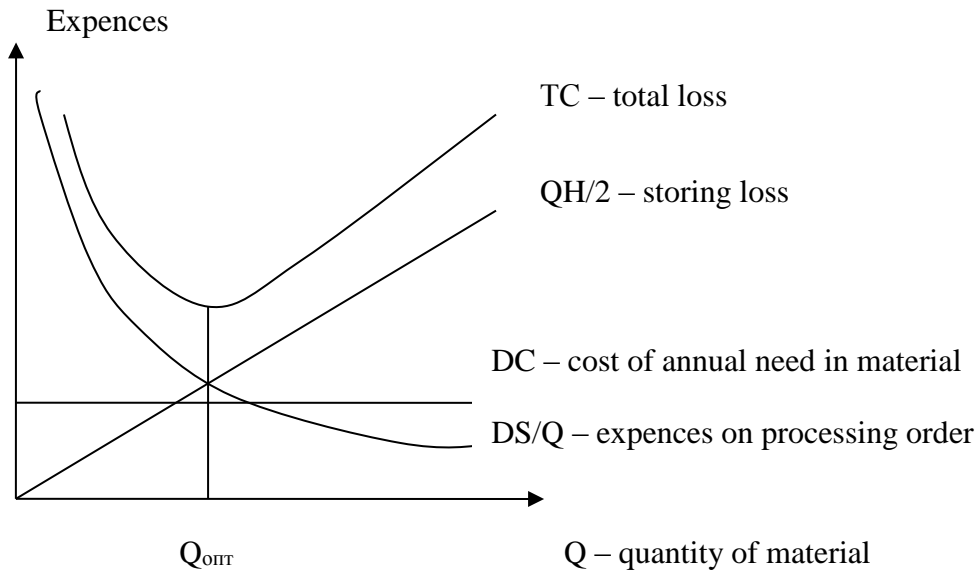


Figure 5.5 – Dynamics of forming the charges of the economic order model

This model is simple in use, but it requires to observe many conditions:

- demand is known and is permanent, this shows the permanent level of supply in amount of Q things for each of three orders represented on the Fig. 5.6;
- current time, time between placing the order and the order receipt are known and are permanent, that show the identical spans of time on horizontal was of the Fig. 5.6;
- the receipt of order is immediate, i. e. in one lot and in the same time;
- variables are only charges for a readjust and storage.

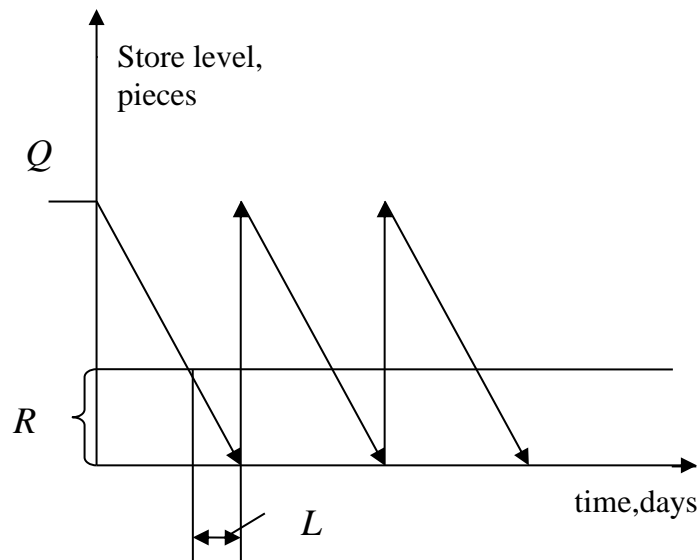


Figure 5.6 – Change of the supply size (Q) in time in the model of economic order
The point of the reorder (R) is calculated as:

$$R = d_{cp} \cdot L \quad (5.4)$$

where d_{cp} is an average daily need in material (constantly);

L is time of ordering fulfillment (constantly).

2. *Model of productive order.* It is calculated in case of the simultaneous making of wares, which are included in supply, and use of this supply.

Example. While fulfillment the order on aluminium window frames one part of order is on the stage of aluminium billets making yet, and other is in the process of their cutting and mounting, although the whole order is not yet fulfilled.

There is a formula for the calculation of the materials amount on condition of the use of productive order model:

$$Q = \sqrt{\frac{2DS}{H} \cdot \frac{p}{(p-d)}}, \quad (5.5)$$

where p is a norm of production that shows by itself the daily (a week's) production capacity of process of making of данної products;

d is a norm of consumption that shows an unchanging daily (a week's) requirement in the final products.

Graphicly the model of productive order is presented in such a way (Fig. 5.7):

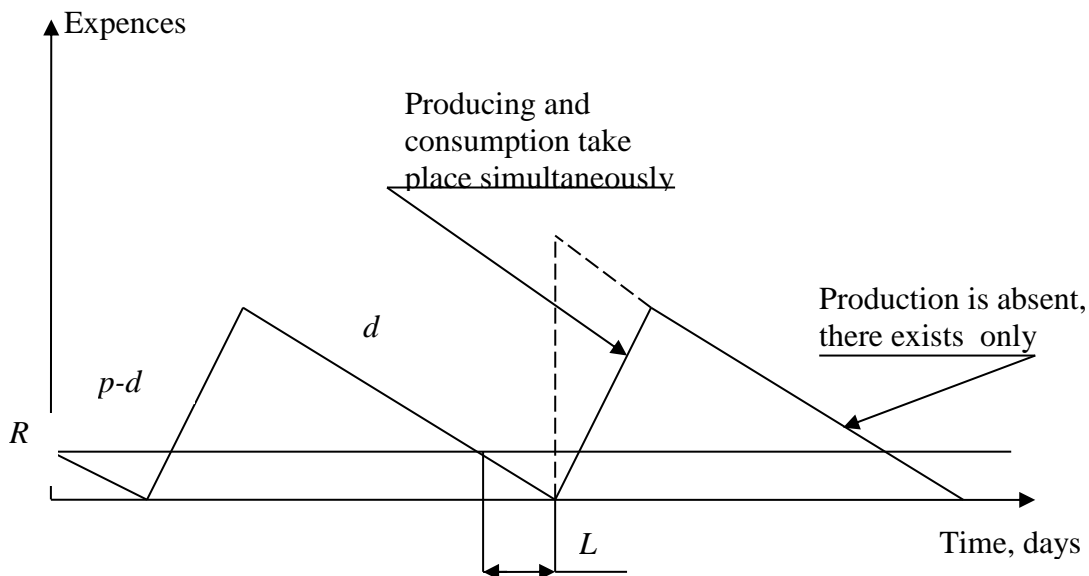


Figure 5.7 – Change of the supply size (Q) in time in the model of productive order

The peculiarity of the productive order model restocking during the certain period of time, products are created and sold simultaneously. Therefore in this model it is necessary to take into account the daily productivity and speed of daily expense of supplies.

3. *A model of ordering with a reserve store.* Its difference from previous models consists in the fact that there exist the additional units that form the insurance supply and can be used in case of emergency situations or change of demand.

A reserve store is determined as a size of supply, constantly supported additionally to the expected necessity.

There are two approaches to determination of reserve store:

- 1) probabilistic;
- 2) that is base on the concept "the service level".

Let's study them. At probabilistic approach the probability of exhausting of supply is regarded only. But not the probability of wares amount, that will not be enough. For example, it is possible to set such level of reserve store, that probability of that the necessity would exceed 300 wares, was not higher, than 5%.

The service level (P) means the necessary amount of wares, that can be really got from the supplies on hand. For example, an annual requirement in a good "A" is 1000 things. The 95% level of service means that 950 things can be got immediately from a supply, and 50 things it will not be enough. This conception is based on the statistical characteristics $E(z)$, where $E(z)$ is an expected deficit of wares, that is calculated by the formula :

$$E(z) = \frac{(1-P)Q}{\sigma_L}, \quad (5.6)$$

where $(1 - P)$ is the dissatisfied part of necessity;
 Q is the economic size of order, calculated by the formula:

$$Q_{opt} = \sqrt{\frac{2DS}{H}}; \quad (5.7)$$

σ_L is standard deviation of need during the order period L fulfillment, which is calculated by the formula:

$$\sigma_L = \sqrt{\sum_{i=1}^L \sigma_{di}^2}, \quad (5.8)$$

where σ_{di} is standard deviation of daily a need, that is calculated by the formula :

$$\sigma_{di} = \sqrt{\frac{\sum_{i=1}^n (d_i - d_{cp})^2}{n}}, \quad (5.9)$$

where d_i is a daily need (consumption norm), d_{cp} is an average daily need,
 n is an amount of days.

4. A model is with the discounted amount. A **quantitative discount** is diminishing of the unit price of products on condition of purchase of commodities in considerable volumes. The peculiarity of the model with the discounted amount of supplies is that in case of increase of discount amount of expense on a product diminish, but, in their turn, storage charges increase, as the orders volume increases. Thus, the optimal variant takes place in the case the discount value is examined between product cost diminishing and storage costs increasing.

There are two types of models with the discounted amount: a model with a variable (graded price) and a one period model.

A model with a variable price takes into account the dependence of the output cost of good on the order volume, that is not directly proportional, but a graded one.

To determine the wares volume of a certain type, it is necessary to determine the economic size of ordering for every price. An optimal order volume is determined after the least total charges on the supplies storages, that influence the emergence of turnabout. For this purpose the table is made. Here for all possible values of volume orders (Q) all elements of charges on creation of supply are calculated and find total charges on creation of supplies.

One period model is related to placing the orders for covering the necessity only during one period (cycle). For example, how many newspapers must a newspaper stand order every day?

One period models use the analysis of maximum indexes, according to that the optimal size of supply corresponds to an optimal value, after which benefits that are got out from the next good delivery to a store turn out to be greater comparatively with possible losses for the lack of this good.

The use of the maximum indexes analysis is possible in the case, when the probability of any events is known. I. e. the expected income and expected losses are compared. Mathematically interconnection "maximum income - maximum charges" has the following form:

$$P(MP) \geq (1 - P)ML,$$

where P is probability of selling a good;

$(1 - P)$ is probability of not selling a good (as one of these events will surely take place);

MP is an income from the sale of x -good;

ML are losses, if a x -good will remain unsold.

While solving this equation in relation to P , we'll get:

$$P \geq \frac{ML}{MP + ML}, \quad (5.10)$$

It means that we need to continue the increasing of the supply volume until the probability of sale of the last given good will not appear greater or will to be equal to attitude of losses toward a maximum income.

To handle the stores of dependent demand, initial information is needed. It consists of:

- productive schedule (it determines what must be done and in what terms);
- the specification, or list of materials that are used;
- the presence of materials on a store place;
- materials in a request;
- current time of producing.

Let's study each constituent of this information more detailed.

The productive schedule must comport with a production plan, which is developed on the basis of the aggregate planning methods that contains the financial plan of present powers and consumer demand. Every level of productive chart must be carried out, as there is a feed-back. It is necessary to provide exact implementation of chart with taking into account enterprise power.

A specification, or list of materials that is used, is necessary, as on every enterprise (organizations) there are failures and errors in drafts through the hasty producing of new wares. Thus details are specified after facilities of a good composition list.

A good composition list is a list of a certain amount of components, ingredients and materials that are necessary for the production of a good.

A presence of materials on the store place is based on ABC-analysis data according to the terms of verification and realization of appropriate co-ordination in a case of disparity to the necessary norms.

A presence of accessible information for a manufacturing stuff and its driving to every workplace.

Current time of making is calculated in a case, when it is necessary to make an article of labour, and then time for its purchasing is calculated. The calculation is held by means of cyclic chart of making a good according to a present specification.

5.5. Operating planning and production control of production

An operative management consists of the operating planning and production control.

The operative planning of production is taking of the ratified annual productive program of enterprise to every workshop, area and workplace as operatively-calendar plans and organization of their implementation.

Production control is a centralized continuous management on works co-ordination, which embraces an account, control, analysis, adjusting, organization and stimulation, fulfilling the operatively-calendar plans by all workshops and subdivisions of enterprise.

The operative management consists of such stages:

- Forecasting (determination of the future course of events);
- Rationing (development of calendar and planning norms);
- Planning (operatively-calendar planning of subdivisions work);
- Organization;
- An operative account.

The basic task of the operative planning is providing of systematic rhythmic production with the aim of fulfilling commitments on the products supply on condition of the best use of productive resources, and also minimum binding the turnover means at all stages of productive process.

There exist the following methods of the operative planning:

- outputing;
- calendar;
- outputing-calendar;
- outputing-dynamical.

The outputting method is used for distribution of goods production volume that is produced, in natural, labour and cost sizes after the term of implementation and productive subdivisions.

The calendar method is used for determination of calendar terms of production process.

The outputting-calendar method simultaneously takes into account terms and volumes of producible works on condition of concordance of nomenclature, terms and volume of the pre-arranged works with the possible carrying capacity of productive subdivisions in a whole period that is examined.

The outputting-dynamical method allows taking simultaneously into account terms, volumes of output and dynamics of works implementation of the concerted nomenclature, terms and volumes of the pre-arranged works with the complete and even loading of productive subdivisions by the types of works for the whole period that is examined.

Under **the production capacity** of enterprise is meant the the most possible annual producing of products in a nomenclature and assortment, set by a plan, on condition of the complete use of productive equipment and areas on the basis of the use of progressive technology and the most rational methods of labour and production organization.

The planning production capacity is calculated for a certain planning period.

Project enterprise power is the set size of output products volume, that is accepted as a base index for enterprise planning that is built or reconstructed.

A production capacity is determined by the power of leading subdivisions (workshop, area, group of equipment) taking into account measures, sent to liquidation of "weak points".

A leading subdivision is subdivision where basic technological operations on making products are held, where most part of labour force is used and concentrated the most part of the resources of this subdivision.

A "weak point" is disparity of powers of separate workshops, areas, group of equipment to powers of corresponding subdivisions, where the power of all enterprise is set.

For planning calculations one uses the index of average annual power, that is calculated by the next way:

$$P_{average} = P_{inp.p} + \frac{P_{ins.p} \cdot T_u}{12} - \frac{P_{dr.p} \cdot T_{dr}}{12} \quad (5.11)$$

where $P_{inp.p}$ is an input power, hrn.;

$P_{ins.p}$ is an inserting power, hrn.;

T_u is a period of the powers use that are inserting (from the point of introduction to exploitation to the end of year), month;

$P_{dr.p}$ is power that is dropping out, hrn.;

T_{dr} is a period, during that powers that were dropped were not used (from dropping out till the end of the year), month.

The production capacity PC of each bench or a group of workplaces that make this operation on the separate detail processing is calculating by the formula:

$$PC_j = \frac{P_j \cdot F_{ac.t}}{t_{pr.j}} \quad (5.12)$$

where $F_{ac.t}$ is an actual fund of time of work of a piece of equipment, min;

P_j is an amount of pieces of equipment in a group j , things;

$t_{pr.j}$ is a progressive labour intensiveness of processing one set of details on the equipment j , min.

In their turn, funds of time are:

- *calendar* (for the pieces of equipment, that are working continuously);

$$F_{c.t} = 365 \cdot 24 = 8760 \text{ hours}$$

- *regime (nominal)*;

$$F_{nom.t} = S \cdot (q \cdot D_w - D_h \cdot H_t) \quad (5.13)$$

where S is an amount of shiftworks;

q is duration of shiftwork;

D_w is an amount of working days in a planning period;
 D_h is an amount of before holidays days;
 H_t is an amount of non-working clock in before holidays days.

- an effective (actual, working) fund of time :

$$F_{eff} = F_{nom.t} \left(1 - \frac{a}{100}\right) \quad (5.14)$$

where a is a losses percent of business hours on plan repair; derives from 2 to 12%.

Thus, a production capacity depends on such factors, as an amount and composition of equipment, an accepted mode of equipment operations, productivity of equipment or labour intensiveness of products that are produced on this equipment.

Reserves of increase and use of production capacity are:

- extensive; are revealed in the increase of amount of the set equipment that provides the productive use of all technical equipment and potential fund of time of its work (for example, increase of amount of the set equipment, increase of regime fund of work time);
- intensive are reserves of decline of labour intensiveness of products or increase of the labour productivity (for example, introduction of new technologies, improvement of wares construction, modernisation of equipment, application of progressive instruments, application of economy of raw material and materials).

The reserves of improvement of the production use capacity are divided into:

- extensive (liquidation of time losses in the equipment work);
- intensive (degree of capture by all workers the new operating technique and technologies).

The actual use of industrial capacity in market conditions is determined by such factors, as a market situation, competitiveness of goods, material support of production, supply of labor.

The level of the industrial capacity use for 60-70% is considered to be normal, as the production task consists not in the maximal loading of equipment, but in producing of competitive products and maintenance of reserve capacity for additional orders.

The indexes of the production capacity use are:

1. Coefficient of the extensive use of equipment that characterizes the use degree of possible time of its work and is calculated by the formula:

$$C_{ext.u} = T_{ac.} / F_{pl} \quad (5.15)$$

where $T_{ac.}$ is an actual time of equipment work;

F_{pl} is a planning, effective fund of time.

2. Coefficient of the intensive use of equipment, that shows the degree of the equipment use for a time unit, i. e. characterizes the level of equipment use by power; it can be calculated by the formula:

$$C_{int.u} = V_{ac.} / N_p \quad (5.16)$$

where $V_{ac.}$ is an actual volume of products output for a time unit;

N_p is the set norm of products producing during this period.

3. The index of the integral use of equipment is calculated by the formula:

$$I_{integral} = C_{int.u} \cdot C_{ext.u} \quad (5.17)$$

and presents total description of the equipment use level of both by productivity and by times.

4. Capital productivity ratio (products producing for a 1 hrn of capital assets cost)

$$F = V / A, \quad (5.18)$$

where V is the annual products producing in a value representation,

A is an average annual cost of capital assets.

The indexes of the production capacity use allow to define the degree of the powers use on an enterprise.

5.6. Human resources management in the operating system

A *working process* is a man's influence on a human object by means of tools or as a result of the tools' action guided by a man to create a product that is in certain natural or artificial circumstances. A working process is the most difficult, main and simultaneously the finishing stage of any productive process. The working process embraces all spheres of human activity, thus it is necessary to define the types of human processes according to their classificational characteristics (Tab. 5.3).

Working process consists of the following stages:

1. Analysis of situation (problems of works plan, program, technology, project etc.).
2. Forming of a certain idea about wares technologies, conditions and requirements of environment, prognosing of process results.
3. Preparation of workplace and its providing by all necessary things (by material resources, human force, information, technology etc.).
4. Work accomplishing, i. e. working process.
5. Presentation of results and execution of work.
6. Handing over and realization of work.
7. Stimulation of high results of human.

Table 5.3

Classification of working processes		
№	Classificational characteristic	Type of a working process
1	Human character	<ul style="list-style-type: none"> - physical - mental - perceptible - mixed (integral)
2	Human object substance	<ul style="list-style-type: none"> - material processes that are related to producing of a concrete product - documented processes that is related to creation of non-material assets - virtual processes that are related to informative or spiritual service
3	Aims of human processes for their consumers	<ul style="list-style-type: none"> - creation of material base for satisfaction of needs - satisfaction of material human needs - satisfaction of spiritual and social human needs - satisfaction of public needs
4	Production sector, where the working process takes place	<ul style="list-style-type: none"> - material production - non-material production
5	Role and place of working process in a productive process	<ul style="list-style-type: none"> - in basic processes is products producing, work accomplishment or provision of services - in the secondary processes is providing of the normal functioning of basic and secondary processes - in service processes is providing of the normal functioning of basic and secondary processes
6	Periodicity of works accomplishing	<ul style="list-style-type: none"> - continuous processes - cyclic processes - non-cyclic processes
7	Level of working	<ul style="list-style-type: none"> - manufacturing processes

	processes automation	<ul style="list-style-type: none"> - machine-manufacturing (mechanized) processes - automated processes - automatic processes
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To organize a working process means to unite in space and time according to the amount and quality of labour object its facilities and labour force. Thus organizers, technologists, economists must answer the questions: that is made? with what parameters? who does make? where, when? what charges and what results do accompany a labour process (activity)?

Labour activity organization of must be based on the science achievement and advanced experience, to provide the increase of the labour productivity and maintenance the human health.

One of the main questions of organization of workplaces is their rational planning. The planning of workplace means the effective spatial placing of all material elements of production in the workplace (equipment, technological and organizational equipment etc.), that provides the economy use of floorspaces, a highly productive and safe labour of a worker. There are external and internal workplace planning.

The external planning is a rational placing on the workplace the basic and auxiliary equipment, rigging and organizational equipment. It includes working and secondary space (zone). A working zone is part of three-dimensional space, that is limited by reach of hands of worker in horizontal and vertical planes including the body turn for 180° and moving to one or two steps. Instruments and articles of labour, that is constantly used in the process are placed in this zone.

The rational internal planning of a workplace foresees the most effective placing of the technological equipment and instruments in an instrumental closet, rational placing of billets and details on the workplace.

For accomplishing the productive tasks every workplace must be provided by the different types of service : by the supply of materials, resources, billets, realization of repair and regulation works for equipment etc. The sum of different types of service presents the service system of workplaces, areas, workshops.

The system services means regulation of volume, terms and methods of byworks accomplishing with providing the workplaces by everything necessary.

The serving system of basic workplaces (for example, multiple-machine) includes:

- rational distribution and co-operation of labour between basic and by auxiliary workers, maximally releasing the first from byworks for he would execut basic functions only;
- planning of service process (by the concordance of calendar schedules of service with the system of the operative planning and activity of basic workers);
- a preventive character of service (implementation of planning-reventing repair, timely preproduction, including supply to the workplace of the preliminary manned materials, billets etc.);
- organization of complex workplaces serving by contemporaneous performance by different services the all serving functions (preparatory, instrumental, transport and others);
- upgrading and reliability of equipment repair;
- permanent and effective connection of workplaces of basic production with an auxiliary personnel;
- providing of economy service;
- strengthening of responsibility for timely and quality implementation of service function by auxiliary personnel.

The workplace service can be accomplished by:

- the beforehand worked standard plan (forced system) - it is recommended for a stable productive process in the conditions of mass and serial production;
- the standard plan (forced system) worked out in good time - it is recommended for a stable productive process in the conditions of mass and serial productions;

- as a scheduled maintenance service in accordance with calendar plans and schedules (at insignificant volumes and unrhythmic making of products in conditions of mass production);
- as a current service after calls from workplaces (at small volumes and irregular products producing in the conditions of single and small-scale productions with maintenance of scheduled maintenance repair).

Questions for self-check:

1. What is the essence of operating management?
2. What is the basic criterion of the operating system activity?
3. Name the functions of operating management.
4. Characterize the methods of operating management.
5. What types of the operating systems do exist?
6. Characterize strategic management.
7. For what purpose and how is optimization of the productive program realized?
8. What is the essence of the aggregate planning and its strategy?
9. What methods of aggregate plan do exist?
10. Expose disaggregating essence in the hierarchy of planning.
11. What is the general approach to stores control?
12. Give description to the model of supplies of independent demand.
13. What supplies of dependent demand do exist?
14. What is the essence of operative management?
15. What methods of the operative planning do exist?
16. What is production capacity?
17. What is the essence of labour processes organization?
18. Name basic principles of workplace organization.
19. What is the labour productivity and what are the basic methods of its improvement?
20. What is the essence of labour process planning?

CHAPTER 6. MANAGEMENT INFORMATION SYSTEMS

Objective: *creation of knowledge and skills of rational use of modern information systems and technologies.*

Subject: *information systems and technology management of different classes in the organization.*

Content Modules: *Evolving approaches to building corporate information systems (MRP - MRP II - ERP - Advanced ERP - EAS - ERP II).*

Content modules: *Software and approaches.*

Possibilities and limitations of intellectual systems today. The structure of information systems. Automation of design and planning management.

Automation of business plans. Automation of decisions. Expertise and expert learning systems.

Decision support system. Using indexing and retrieval of data. Management of the exchange data processes using the technologies of computer networks. Hypertext technologies of data processing.

6.1. Informatization of management processes

Organization of information systems must meet the organization of the basic activity of the company. For information systems and technology is quite natural that they expire and are replaced by new ones.

Centralized processing of information on computer centers was the first historically established technology. Large computer centers for collective use were created, equipped with large computers, which use is allowed to handle massive amounts of input information and receive various types of information products, which were then handed to users.

Decentralized information processing connected with the advent of personal computers and the development of telecommunication facilities. It has shifted the previous technology because it gives the user ample opportunity to work with information and does not limit his/her initiatives.

Rational is such a methodology by which the duties are allocated as follows:

- computing center is responsible for developing an overall strategy using information technology to help users both in work and in training, set standards and define the policy of using software and hardware;
- staff, using information technology must follow the instructions of the computing center, develop their local systems and technologies in accordance with the general plan of the organization.

Rational methodology of information technology usage will achieve greater flexibility, adhere to common standards, compatibility of informational local products, reduce duplication, etc.

There are several points of view on the development of information systems and technology, using computers, which are determined by different characteristics of the distribution. Common to all approaches is that with the advent of the personal computer began a new phase of development of information technology.

1-stage (60-70 years) - The "e" technology, the basic tools which are large computers and created on the basis of their automated control system (ACS) and information retrieval systems.

2-stage (from the beginning of 80's) - The "computer" technology, the main tool in which is a PC with a wide range of standard software products for various purposes.

3-stage (from the beginning of 90's) – this is establishment of modern information systems technology. Begins to be widely used in various areas of global and local computer networks.

4-stage (the end of 90's – the beginning of the 21 century) – this is development of communication, global and local networks.

Let's consider the basic concepts and terms in the field of information management systems.

Information – facts about objects and phenomena of the environment, their specifications and the state, which reduce the existing degree of uncertainty that appear in their particular environment preservation, processing and communications.

Information resources - a set of knowledge and information about the world, collected and placed on any media information (documents, databases, etc.), that can be used to implement any purpose.

Information object - is a description of a thing (real object, phenomenon, process and event) as a set of logically related information (information elements). Such entities for information objects can provide: shop, warehouse, material, etc. Information object of the determined essential elements and structure form a class.

Information technology - a set of interrelated scientific, technological, engineering disciplines, that study methods of effective management of the processing and storage, computer equipment and methods of interaction between staff and production equipment as well as the associated technical, economic and social problems.

The tools of information technology – is one or several interrelated software products for a particular type of computer technology, technology of which allows the users to achieve their goal.

The literature distinguishes four types of modern information technologies:

- 1) *Information technologies of data processing* - designed to solve well-structured tasks of which input data and the known algorithms and standard procedures for their processing are necessary. This technology is used at low operating personnel skills to automate some routine operations of constantly recurring administrative work. Therefore, the introduction of information technologies and systems at this level significantly increases staff productivity, relieves him from the routine operations, may even lead to a reduction in the number of employees.

At the level of operational activity the following scientific objectives are discussed:

- Data processing operations, performed by the company;
- Creation of periodic monitoring reports on the status of the activities of the company;
- receipting of response to current needs and designing them in a paper or report.

In information technology of data processing one can create documents for management and employees, as well as external partners. This document can be created either on demand or in connection with the company operation or periodically at the end of each month, quarter or year.

- 2) *IT management* - to meet the information needs of all employees of the company without exception that deal with decision-making. It can be useful at any level of control. This technology is oriented on the work in the environment of information system management and is used by worse structure of the tasks solving compared to tasks performed by information technology of data processing;

- 3) *Information technology of decision support*:

- decision support systems DSS (Decision Support Systems) are the type of information systems, in which through very complex queries selection and data analysis in different aspects is performed: temporal, geographical and on various parameters. The means of artificial intelligence form the expert subsystem which is based on rules or precedents from the knowledge base and appropriate mechanisms for the conclusion;
- in the class of systems of decision support systems the class of online analysis processing OLAP is distinguished. Here, processing efficiency is achieved by applying a powerful

multiprocessor computers, special OLAP-servers, methods of multidimensional analysis and specific data repositories that accumulate information from different sources at a time, and such that provide quick access to them. Efficiency and flexibility of information technology depends largely on the characteristics of the interface system to support decision making.

- 4) *Information technology expert systems* – it is the ability to accumulate knowledge and experience of highly skilled specialists in a particular narrow subject field. Then using these knowledge users of expert systems that are not very qualified can solve its current task as efficiently as it would have made experts themselves. They enable professionals to obtain expert advice on any issues about which systems have been endowed.

There is a large class of information retrieval systems based on hypertext and multimedia, designed to safeguard user information through interactive communication.

Independent subclass of information retrieval systems are geographical information systems GIS. The information is linked to geographic coordinates on a map or plan area.

6.2. Automated systems of company management (Standards for MRP, MRPII, ERP, ERPII)

In the field of information management at present the following standards are used:

- **JIT (Just-in-Time)** - a method of planning and management, which is to minimize the insurance and operational stocks by stabilizing supplies and reserves of production capacity.
- **MRP - Material Requirements Planning.** Based algorithm, formulated in the late 60's in A. White's publications and the publications of American organizations with inventory control and production (APICS92).
- **MRP II - Manufacturing Resource Planning.** Like MRP, was formulated by A. White and APICS92 at the end of 70's – the beginning of 80's.
- **CIM - Computer Integrated Manufacturing.** This concept began at the beginning of 80's and is connected with the integration of components and systems management.
- **CALS - Computer-aided Acquisition and Logistics Support.** CALS methods emerged in 1980's in the U.S. military department. CALS feature is the standardization of data exchange between all the units - project participants.
- **ERP - Enterprise Resource Planning.** The concept was proposed at the beginning of 90's by analytical firm of Gartner Group. Today it is one of the most powerful and promising.
- **CSRP - Customer Synchronized Resource Planning.** The concept was proposed by the firm Symix (USA) and was implemented in a family of software products Syte Line. One of the latest trends in business planning based on synchronization of the company directly to the client's needs.

For the successful promotion any information systems must meet specific requirements conditioned by the need to use a component approach:

- Openness - system cannot be isolated;
- Portability - the system is not tied to specific hardware platform, it is possible to switch to another platform with minimal costs;
- Interoperability. The system is developed by the following rules to be able to increase through additional, independently developed components and provide the necessary export / import data;
- Large range. The system should have the ability of unlimited expansion. For this restriction which is imposed on the system in any aspect, it is missing or the job is assumed on a system with sufficient resources for any user;

- Universality. The system is designed so that users could easily go beyond the functionality of the standard supply and be able to build up their own business processes, create custom business objects and implement custom business logic;
- Corporativity. The system should take into account the peculiarities of the network affiliated company, to support work on distributed databases and remote access to company information resources.

MRP Standard. To solve the problem of optimal production control in the mid 60's the material resources management principles of the company were formulated. These principles became the basis of the concept of MRP (Material Requirement Planning), the main provisions of which are: industrial activity is an interconnected flow of orders; during the execution of orders the limiting of resources is considered; minimization of production and inventory cycles and stock is provided; order, delivery and production are formed on the basis of sale orders and production schedules; movement orders is agreed with economic indicators, the order is completed when necessary.

MRP methods declare what accounting processes and controls must be implemented in companies, in which order to run them and include recommendations, in which way it should be fulfilled. Further development of the MRP concept was affected by improving the functionality of the company towards better customer satisfaction and cost reduction.

MRP II Standard. MRP-methodology is an algorithm for optimal control orders for finished goods, production and stocks of raw materials, implemented by a computer system. In general, it provides the solution of tasks of planning, the activity of the company in natural units, financial planning in money.

Standard class of MRP II describes 16 groups of functions:

- Planning, sales and production;
- Demand management;
- Plan production;
- Material requirements planning;
- Product specifications;
- Control system;
- Routine supplies;
- Management at manufacturing plant;
- Planning capacity needs;
- Control input / output;
- Logistics supply;
- Resource planning division;
- Planning and management workbench;
- Financial management;
- Design;
- Performance measurement.

MRP II Standard shares the scope of certain functions on two levels: the required and optional. In order that the software was considered to be the MRP II class, it is necessary to perform a defined scope of (basic) functions. Some software vendors have chosen different implementations of a range of optional procedures of this standard.

ERP Standard. The development of MRPII systems is related to their development into a new class of systems - Enterprise Resource Planning - ERP. Systems of this class are meant to work

with financial information to solve problems of large corporations with geographically distributed resources. Besides the functional requirements for ERP systems the new requirements concerning the application of graphics, the usage of relational databases, CASE-technology for their development, computing architectural system such as “client-server” and their implementation as open systems are used. Systems of this class are actively developing since the end of 80's.

It should be noted that the approach to solving problems in production planning ERP systems until recently remained largely unchanged, i.e. in that form in which it has established in MRP II systems. Elements of planning optimization in traditional MRP II / ERP-systems are found only on the lower level - in case of operational planning problems using methods of the theory of scheduling.

ERP II Standard after the transition from MRP (Material Requirements Planning) to MRP II (Manufacturing Resources Planning) imposed in 1990, the term ERP (Enterprise Resources Planning) for several years adopted a new approach to resource planning. It provided accurate accounting of all resources and vision of the circumstances that existed outside his own industrial company whether it belonged to the process, discrete or mixed production; this concept is called "Extended ERP".

ERP II - a business strategy of the company, which belongs to a particular field and it is a set of the key for the industry applications that help customers and shareholders of companies increase business value through effective support and optimize operational and financial processes both within the company and in external world - from international cooperation with other corporations.

The concept of ERP II is based on six basic elements relating to business strategy, technology strategy and the strategy of building applications:

- the role of ERP II;
- scope of activities covered by this concept;
- features that are inherent in this area;
- types of processes within those functions;
- system architecture that provides these processes;
- methods used for data management within this architecture.

All of the elements (except Architecture) suggest that ERP II – is a development concept of ERP, aims to ease the use of information generated within it in the environment for cooperation with other corporations within communities according to the interest. Expanding the scope of ERP II (compared with ERP) revealed, inter alia, that the new concept also covers non-manufacturing sector.

Development and implementation of information systems. In case of implementation of information systems company should choose one of two basic concepts that reflect the perspective formed by the existing organization structure and role in her computer processing.

The first concept focuses on the existing structure of the company. Information technology adapts to the organizational structure, and only the upgrading of methods occurs.

The second concept focuses on the future structure of the company. This strategy involves the full development of communications and development of new organizational relationships.

Principles of formation and implementation of information systems

Principle 1: organizational structures and process systems must be conceptually agreed with one another.

Principle 2: the introduction of IS in the company should provide positive motivation and satisfaction of employees using the proposed system project of informatization.

Principle 3: users must actively participate in the creation, development and improvement of IS.

Principle 4: participation in the development of production units and development of IS involves dimensional organization and project management, and appropriate methods of structuring and maintaining communication between these departments and experts from IS.

One can distinguish two main approaches to designing control systems and information systems of their support: structural and process.

The structural approach is based on the use of organizational structures when designing the system goes on the structural units. Technology activities are described in this case through the technology business units, and the interaction of structural forces - through top-level model. The main drawback of the structural approach is binding to the organizational structure that is changing very quickly because the system design of information systems has to make changes often.

The process approach focuses not on the organizational structure, and business processes. Business processes, in contrast to the organizational structure, are changing less often. Typically, the key business processes in the company are not many, usually no more than ten. Process approach to the analysis and modeling of business processes, and also to the following requirements has to develop information systems which can quickly be accompanied by rational technology works in parallel with the operation of information system upgrade, increase capacity of the database and keep it up to date. Another primary advantage of using the process approach is the possibility of formalization technology works with the reorganization of companies and designing information systems supporting sustainable business processes.

Features of IS that are created in the organization by their own. Development of the concept, architecture, structure and basic technical requirements are mainly available at the moment of IT professionals according to their experience and professional interests.

The level system which is created is determined by the level existing in the company of experts, mainly programmers.

The company should form a team of professionals, industries whose sphere of activity will be informatization. Manager, who heads a team - is an information manager. In addition, the persons who make decisions must be properly prepared at all levels:

- Centralization;
- Integration (reintegration);
- The arising of savings effect without reference to activities.

Elements of the impact of engineering and technology skills are also: disqualification, increasing of skills, polarization, creation and maintenance of information systems.

Development of IS is usually in the receiver by installing, configuring, and testing of coordination of designed modules.

The introduction of IS is a set of modules in the consumer, setting up and launching them, demonstration of operation and characteristics of the recipient under the contract. End with the bilateral instrument of acceptance of the product.

Maintenance and use information systems. The main tasks of providing information services on development of IS are:

- classification and registration of products;
- normal inspection while products are coming to the funds;
- preservation and maintenance of bank information;
- information and advice on the subject funds;
- organizing of permanent exhibitions of products;

- information outside organizations.

System of testing IS has to provide a product at all stages of its life cycle. "Life" of any system is accompanied by (or, at least, is occasionally accompanied by) a variety of tests: separate subsystems, the whole system, some types of devices, their various combinations in different modes, etc.; promotional, demonstration, certificate, controlling for the accident, to find a solution to the reliability, etc.

Support system is a continuation of support during delivery of the object system in operation. It contains a suite of tools to guide the research and preparation of organizational and technical measures.

6.3. The organization and means of information technologies of management activities

The current stage is characterized by automation control systems, rapid development of distributed computing, which allows faster processing of information by means of maximal approach to data processing for its appearance and use; effectively meet the diverse and frequently changing information needs of management personnel, the decision to provide operational facilities management, reduce maintenance costs of the whole computer system, to increase flexibility and improve survivability systems (with output of one computer does not lead to rejection of the whole system); directly participate in the enforcement process control, improve quality and reliability as conceived decisions.

The technical basis of modern information technologies, and hence the system is the whole complex of technical means of information technologies, including computer distinguished tools, communication, office equipment and software.

Means of computer equipment is the whole complex of technical basis of information technologies and are designed primarily for processing and converting of various types of information used in management activities.

Means of communication equipment provide one of the major functions of management activity - transfer of information within the system management and data exchange with the environment, suggesting using various methods and techniques, including using computer technology.

Means of office equipment designed for mechanization and automation of administrative activity in all its manifestations.

In the field of information such problems that affect the whole development of information systems management exist:

- *ageing of information technology*. For information technology course, they expire and are replaced by new ones. For example, to change the packet processing applications on the mainframe in the computer technology center a personal computer at work guide came on. Taking new information technology to companies one should assess the risk of lagging behind competitors in its inevitable result of aging, as the information products have an extremely high speed to be replaced with new types or versions. Recovery periods are ranging from several months to one year.
- *residual financing of information complex*. For the information provision generally funds are not allocated in the necessary volume. Aiming to reach a new level, much less to become competitive in the global market, most of them will have to revise the priority allocation of funds.

- *lack of a unified automation system.* Partly, but not exclusively, this is also the question of finance. Managers who, despite the presence of funds, do not force the purchase (or by writing their own units) and the establishment of such a system, sooner or later become hostages of their shortsighted policy, losing the possibility of obtaining prompt and accurate information, especially if companies do not have a local connection between departments.
- *insufficient use of Internet technologies.* The causes of this general problem are not clear, because for the solution is needed not really small funding in comparison with the scale of company. Most likely the root cause of problems – is the lack of leadership of literacy in this question. As a result, the level of automation and informatization of Ukrainian companies and their foreign economic activity in general is very low.

Besides of the above, you can also highlight the internal problems of IS, resulting from the coordination of its hardware and software components. Based on the above considerations integrated circuit - this is, indeed, always one or another software and hardware or combination of such complexes, which performs its function as a whole, and should not be classified in this approach.

Prospects for the development of information technology management activity correlate with the current state of information technology as follows:

1. The presence of many industrialized functioning database with significant volume, containing information on virtually all areas of society.
2. Creation of technologies that provide interactive access to the mass of information resources. The technical basis of this trend is the public and private systems and data of general purpose and specialized, integrated into national, regional and global, information-area networks.
3. Expanding the functionality of information systems and technology that provides simultaneous processing of data bases of various structures, multi-object documents, hypermedia, hypertext databases, and the creation of local, multi-problem-oriented information systems for different purposes based on local area networks.
4. Inclusion in the information systems of intellectualization of UI elements, expert systems, machine translation, auto-indexing and other technological means.

Any activity and in the field of information should be provided with guarantees of quality of its products: services, programs, machines, components, systems, etc. Systems, networks, complexes, modules and their components, technology, personnel - all these components together at retail should ensure quality work and products. These guarantees have become to be provided not only by direct certificates, but also indirect characteristics: production management, applied technology and conditions of the company. Getting consumers to these terms allows it to be sure of the agreed quality of manufactured goods as a supplier during the contract to supply products and its applications. This provider must be ready at any time and with the necessary fullness to the consumer of those products, who provides necessary, announced or agreed quality of the products. As a result, systems of quality control products, which are based on international quality standards, are created. Compliance with quality systems requirements is specified by the level certificate of the organization that is licensed for the appropriate level of certification.

For development of international standards and certification companies on the basis the relevant international organizations appeared, including the hugely influential *International Standardization Organization (ISO)*, which standards are widely used in practice in European institutions, i.e. the requirements for quality management systems in enterprises. These are standards ISO 9000, ISO 14000. It should be noted that product means the result of the activity or

processes, it may contain some kinds of services, equipment, software or combinations thereof. Product can be, for example, information, new concepts (“know-how”) or their combination.

In some complex information systems in the scale of company this process is provided by appropriate automatically built-in capabilities. For example some companies offer the service system of automatic certification of ISO to information systems of the customers that buy products of the company. Obviously, obtaining such a certificate provides for any company more opportunities in the conduct of operations with foreign partners, especially exports. Practically certification is provided by the presence of the agreement of the company-developer with the consulting companies that supply such systems and accompany to the client.

6.4. Network technologies and systems of distributed processing

The important factors that determine the preferred network of computers are:

- elimination of duplication and problems associated with updating data for individual users within the company;
- more efficient use of the collective network of quite expensive resources such as software, printers, disk arrays, a large amount of memory, etc.;
- system-wide productivity by introducing a network of specialized components, such as file servers, database servers, telecommunication servers and other application servers;
- availability of additional network services, such as the e-mail, teleconferencing, etc.;
- higher reliability in the presence of overlapping elements in a single network of distributed data processing system and its potential for scalability.

There are following types of the networks.

Local Area Network (LAN), providing the interaction of a small number of homogeneous computers on a small area with relatively less developed with WAN architecture and usage of more simple methods of interaction between network nodes. *Wide Area Network (WAN)* is a large number of geographically distant from each other computers (called host-node), the joint interaction of which is provided by data communications network and special programs for the network operating system. The core of WAN is characterized by powerful computer systems that represent different kinds of servers, designed for many users, as well as specialized computers that serve as communication hubs. *Virtual networks (VLAN)*. Virtual networks (VLAN) allow the creation of logical groups of users to scale the corporate network by organizing users into logical groups, regardless of physical location of workstations of those users. This is one of the major advances in networking technology - the ability to create working groups on the basis of official functions of users, not tying to a network topology. Virtual networks allow you to organize the network more efficiently. Numerous communication nodes along the channels connecting them form a **communication network**, sometimes also called SUBNET communication. If the stations that are connected to the nodes of a communication network, act as computers and terminals, the subnet connection with the stations connected to it forms a computer network. In this connection scheme stations through communication links to communication units and combining their communication channels between the nodes define a network topology.

Routing between virtual LANs can share resources and reduce broadcast traffic to a minimum. We use bridges and routers. Bridges and routers are devices that allow you to connect LANs together with WAN-networks. This connection allows users to share data resources in local and distributed networks. The functions of bridges and routers are similar, but these devices work differently.

Communication protocols, which are widely used today, are designed to help in the process of connection of LAN users. *TCP / IP protocols* are based on a simple four-level scheme. Lower - channel level - establishes standards (Address Resolution Protocol, ARP) of network hardware address and device drivers. Second - the network level - defines the rules of basic communication, addressing logical units and routing packets (*Internet Protocol, IP and Internet Control Message Protocol, ICMP*). Protocols of the third - the transport layer (*Transmission Control Protocol, TCP and User Datagram Protocol, UDP*) - provide the setting connection between two programs on the network as in the virtual channels and using datagrams.

Protocols of the higher – applied level (*rlogin, talk, ftp, ntp, NFS, DNS, traceroute etc.*) – define the rules of interaction of end-users' applied programs.

The need for collective use of data has recently become more urgent. This has led to increased attention to various systems of distributed computing.

Distributed database – is a collection of files stored in different nodes of information network and logically connected so that they constitute one set of data (the communication can be functional or using copies of the same file). Distributed database involves the preservation and performance management functions in several nodes and data transmission between the nodes during query execution. The breakdown of the data in the distributed database can be achieved by maintaining different tables on different computers or even maintaining the different parts and fragments of one table on different computers. For the user (or application) it does not matter how data is distributed between computers. Work with the distributed database should be the same as with the centralized database, thus its placement should be transparent.

Client - server – is a technology that divides the application database into two parts: client (an interactive graphical interface, located on your computer) and server that actually performs information management, division of information, management and security and is located on an allotted computer. Typically, the client and the server is geographically separated from each other, in this case they are part of or form a distributed computing system. For modern database architecture 'client – server' has become the de facto standard. If assumed that the information will be designed according to the architecture "client - server", this means that applications implemented within its limits will be of a distributed nature, that is part of the application functions would be implemented in client software, the other – in the program server.

An important issue is control of access to data. Peculiarities of access to information in data transfer systems and IP is an external feature of such systems. Naturally, access to resources cannot be uncontrolled or uncontrollable. Besides a widely known problem of data protection, a complex task of system resources access control and monitoring their application has become particularly important now. In the simplest case, access control can serve to determine whether the permission of the user access to specific network element, system or database is valid.

Encryption and decryption of data. One of the main means of data protection is their encryption system, that is such a transformation, which excludes their use in accordance with their meaning and content. The encryption (decryption) is a tool by which this protection is possible that is why they are always secret.

The security of information networks. In our country over the past decade numerous information systems and networks based on foreign hardware and software products have been created. There is a reasonable concern about these systems: the possibility of existence of a so-called "undeclared opportunity", i.e. the properties hidden from the user that allow you to manipulate these tools regardless of the user.

Building a rational defense. The protection system may not be absolute. This would require a significant increase in costs for its establishment and operation, and inevitably lead to a decrease in system performance with basic production functions. Security must be built as rational, i.e., with optimal performance for some criterion, which is always a subject of independent study.

Solving can be carried out in various ways, for example, you can find it among the combinations of many degrees of protection, i.e., through exhaustive search of potential sets among many sectors of the database of embedded cycles per options acceptable ways of protection. Thus indices of protection for each database sector that are protected, can be determined to give each sector one or several methods of protection. This approach allows choosing the cheapest among the acceptable ways of protection for each of the sectors in which the total costs associated with the operation of security and losses arising from unauthorized access, will be minimal. If the information in the database is worth protecting, a system of protection itself will cost adequate funds.

6.5. Hypertext technologies and their application on the Internet

Hypertext is created in the process of conversion system from one to the next node (system link). Depending on the type of hypertext system such a system can be set by both developers and users in the process of hypermedia systems. Movement in the hypertext network that is in the process of reading hypertext is called navigation.

Hypertext technology is implemented in a specific hypertext system, which consists of two parts: Hypertext (database) and hypertext shell.

Hypertext technology is widely used in various application systems:

- Desktop publishing systems: to create documents that have a significant volume of hypertext features (i.e. the system of references);
- Document management systems (DMS) - for example, to summarize in one final document the information contained in disparate documents;
- Training systems of electronic documents that combine hypertext documents with the possibility of navigation.

The most famous tool for creating hypertext system is HyperCard, which is one of the basic software for Macintosh machines.

One of the promising directions of development of hypertext systems is hypermedia technology - technology embracing hypertext and multimedia technologies (integration of text, graphics, sound and video). In order to develop hypermedia applications Apple developed a programming environment AMT (Apple Media Tool), in which the main object of development is not a "card", as in HyperCard, but a "screen". These features create a variety of electronic publications - reference books, encyclopedias, develop training programs. The existence of hypertext technology enables to significantly simplify and shorten the time to prepare such documents.

HTML Language – is a means of hypertext documents creation. Universal addressing mode is used to organize hypertext links and provides access to distributed network resources.

Communication protocol is used to establish a connection to an HTML document, regardless of its location.

Internet can help solve the following tasks:

- Remote access. Work on a certain computer in a mode when your PC emulates a remote computer terminal, thus it is remotely possible to organize the work of someone else's computer;

- File Transfer (FTP). File Transfer Protocol (FTP) (File Transfer Protocol) is a protocol that defines the rules for transferring files from one computer to another. Using this option, you may receive and send files on an accessed server;
- E-mail (e-mail). With e-mail one can send messages, receive them in your email inbox, respond to your correspondents' letters automatically, using their addresses and so on.
- Announcement board (USENET news). These are so-called network news or discussion clubs. They allow you to read and post to the public (open) discussion groups.
- People Search. People move from place to place, change jobs, they may have several places of residence, etc. People are always looking for each other, and there is always a problem finding one person in the world.
- ordering of the information is required if you must read some similar theme sites. In this case, search can help, but much more convenient is to seek the assistance of Thematic Catalogs. Subject Directory – is an information system in which the information sorted by categories and Subdivision, is collected.
- News feeds. Today Internet can provide users with a level of independence, no censorship, objectivity, timeliness of information that they need. It's no charge, efficient (in some Internet media news appear online within 5-10 minutes after the event), some serious online editions may still prevail in quality of analytical materials. News sites can provide users not only news, but serious analysis, which aims to help many people navigate the current information situation better.
- Information delivery. If a user can not get information at a certain time directly from the network by visiting a site, information delivery services are at his disposal. Typically, the user leaves his address in the subscription, fills out a small questionnaire, which takes particular note of issues and topics that he would like to receive information about. Then the subscriber starts receiving information in which he is interested;
- Information monitoring. Nowadays time is precious especially for a business person (time is always missing). However, the Internet services are long engaged in monitoring, collecting and analyzing information. Naturally, these services are not free, nevertheless they are in great demand on the Internet;
- Business sites provide users with the maximum amount of commercial information (business news), they can learn about rates, use the currency converter, read theoretical works, and so on, e.g. the sites: ukrbiz.net, cyber-service.net;
- Industry-specific business projects - are sites created for communication and cooperation of experts, professionals in any single industry, such as wood or oil;
- classifieds and auctions - if you want to find an offer of a private individual or firm or to place your offer, then such sites will help the buyer-seller find each other, these are sites like ebay.com and [Russian molotok.ru](http://Russian.molotok.ru).

Basic approaches to accommodation, storage and retrieval of information in the system need a good system of addressing, which offers the Domain Name System.

The Domain Name System is a complex distributed database that contains information about computers (mostly about computer servers) connected to the Internet. To the information of this database belong the addresses (names) of computers, computer numeric IP-address, information for routing mail and much more.

E-commerce - a form of product delivery in which the selection and ordering of goods/services are allowed via computer networks, and transactions between buyer and supplier

come from the use of electronic records and / or means of payment. Thus buyers of goods (or services) can be both individuals and organizations.

Internet business as an additional tool of business development presupposes a traditional business model, supplemented by a new environment and Internet business technology.

Using Internet business Technology provides such features as:

- World market entry;
- Business Uptime (24 hours a day, 7 days a week);
- Information exchange with any part of the world;
- Costs reduction;
- Optimization and automation of business processes;
- Optimization and automation of relationships with suppliers, dealers, partners;
- The possibility of making payments via the Internet;
- The possibility of payment by barter and clearing schemes;
- reducing the costs of advertising and marketing efforts;
- contactlessness with district and municipal administrations;
- Business mobility.

Economic activity carried out via the Internet, basically can be categorized in four areas: Enterprise - Enterprise "(B2B)," Manufacturing - Consumer (B2C), consumer - consumer "(S2S) and consumers - (S2V). This system allows more accurate assessment of the benefits and challenges of e-commerce for an adequate response.

6.6. Peculiarities of advertising on the Internet

Advertising on the Internet is a tool that is essential to the success and popularity of any Internet materials, to effective building and maintaining of the company image, or measures to promote the brand on the market, etc.

The purpose of such advertising are: assuring a sustainable level of sales of products and services of the owner of the site.

The activity of online advertising uses different methods.

Banner advertising is the most popular way to increase web page traffic (attracting visitors), to attract new customers as well as a powerful tool for image advertising on the Internet.

Banner Network is an association of different sites, these pages place network members' banners, as well as banners of any company that paid the owner of this banner network.

Show is one upload of a banner on the page, but usually show does not mean that the user actually saw the banner.

Banner as a carrier of image advertising. Do not write off the role of a banner as a means of image advertising. If the banner response is 2%, this does not mean that the other 98% were wasted. Each banner show is significant to advertisers, because it is an excellent tool for branding, i.e. image advertising of company, a determined by product / service, or perhaps the website. In order that image advertising worked, the banner should be made accordingly. This includes professional design, moderate advertising text and slogan, the use of appropriate images, etc. The use in this case of intriguing scrollbars and buttons, not related to the meaning of phrases and images, is not an option.

Large-scale research on significance of image banner ads has proven that banners are very effective as a branding medium.

Methods of payment mechanisms and banner advertising on the Internet. Usually a fixed price per thousand advertising banner shows is set, that is considerably less than the cost of

traditional advertising media. In addition, there are pay-per "click" on a banner company advertiser. The cost of a click on a banner is higher than the cost of displaying a banner, because it is believed that potential customers (buyers) "click" on the banner. The cost of a click on a banner is calculated as the ratio of visitors to the net profit.

There are other forms of Internet advertising, for example, E-mail advertising. Mechanism of email is used by many popular podcasts. These include mailing lists, discussion sheets and, of course, individual mail messages. Skillfully used, e-mail can be another effective tool to promote a company/web server on the Internet.

Effectiveness of Internet as an advertising medium. The main advantages of Internet over other advertising media include:

- targeting - a clear coverage of the target audience, made through content sites, geography and time;
- tracking - the tracking, analysis of behavior of visitors of the site and site improvement, product and marketing according to the results of such ongoing monitoring;
- 24x7x365 property, which means you can operate 24 hours a day, 7 days a week, 365 days a year;
- efficiency, which allows to start, adjust or cancel an advertising campaign at any time;
- interactivity, enabling consumers to communicate online with the seller;
- volume means that Internet can locate a lot of information, including graphics, sound, video and special effects.

Internet Advertising Future for Ukraine depends on such factors: the general growth in the number of users, creation of quality Internet resources, the emergence of new technologies that will help more low-cost and simple, high-quality Internet access.

Another significant feature of Internet advertising is interactivity. The end-user is not only a potential customer, he also responds to advertising, has direct contact with it, moreover, in most cases his reaction be documented. Client not only responds to advertising, he participates in the production chain of goods to retail its sale. Media cannot compete with the Internet in performance with the audience.

Advertising Agencies in the network. Now that there are many sites, it is obvious that to solve the majority of tasks, simply available sites hosted in the network are certainly not enough. There is a need in a carefully planned and usually costly (the cost is often many times higher than that of developing the site) program of promotion.

List of services provided to the client by advertising agency, provides:

- a) determining the feasibility of using the Internet to perform tasks set by the customer. To solve the problem one should not always use the network. For example, mobile phone model can be successfully promoted, because a significant percentage of potential buyers is online audience, in addition, a site (not a TV movie) can fully and effectively provide all the features and benefits;
- b) determining the advertising strategy and positioning (site, company, product, services). The agency must obtain from the customer the most comprehensive information about specific features and advantages of the advertised product/service, on long-term and short-term goals of advertising, target audience. Also, for a coordinated advertising Internet companies need to know about measures to promote the company's customer off-line. The tasks of the agency usually comprise the analysis of the presence and activity in a network of direct and indirect competitors of the customer, developing of effective methods of "fighting" with them;

- c) media planning. Internet offers many tools to influence a target audience by the advertiser. Among them are the following: advertising on content sites and general information sites, Banner Network, e-mail marketing, promotion by search engines and directories, affiliate programs and sponsorships and much more. With so many opportunities and a limited marketing budget, while making a media plan, you must carefully weigh the pros and cons. According to the developed advertising strategy the choice of advertising sites and media packs (variants and models of payment) takes place directly on the site;
- d) development of advertising media. One should not underestimate the quality and immediate implementation of advertising media, and the correctness of the idea of advertisements. Created banners, collages, mini-sites and even correct text are a "face" of any advertising campaign, advertisers and agencies that created them. It is often impossible to copy advertising ideas that are used in traditional brick and mortar advertising of the customer, because the network has its own specificity, which must be observed;
- e) optimization of existing site or creating a special promotional site. If necessary, for a separate advertising campaign or a promotion one should make certain changes to the site of the customer. Among them may, for example, be:
- creating a new partition or promo page (which differs from the site);
 - change of a home page, shifted on the subject of promotion;
 - Setting on special programs (such as quizzes and raffles organization, product presentations, etc.);
- f) booking and advertising location. According to the approved media plan and schedule of customer promotions agency performs first slots booking and then direct advertising in Web publishing. Given that large media plans cover more than twenty sites, the customer gets really big advantage, working with the agency: he avoids the need to negotiate and pay for each publisher separately. Payment is made once and directly to advertising agencies;
- g) the supporting measures. These include:
- site optimization for search engines, registration in all major search engines and directories, index support and the relevance of high position in a given range of keywords;
 - developing strategies for individual client with a dosed influence on the target audience;
 - work in online conferences, discussion lists, mailing lists, message boards, online communities;
 - individual leaves;
 - collection of private information about users of the site and the subsequent impact on this audience;
 - PR-campaign;
 - Development and implementation of "events" in the advertiser network;
 - Alert the Internet community (target group) on the "event" through the news sites, web browsers, conferences, advertising, etc.;
 - Development and implementation of competitions, quizzes, lotteries, etc.
 - on-line product presentation, bilateral communication with potential customers and journalists, interviews and more.
- h) monitoring of the company's rapid adjustment. Internet is a medium that allows you to quickly detect the impact of location as well as direct advertisements. Agency is able to track not only the correctness of publishers' obligations, but also adjust the course of advertising company by

evaluating intermediate results. For example, change the banner network focus quickly, replace banners placed by publishers with more efficient or new ones, etc.;

- i) post-analysis of both advertising campaign and the comparative impact of each of its destinations. Obviously, the overall assessment of the advertising company in Internet as well as determining the effectiveness of each area involved in it are necessary for any advertiser who counts his money. This analysis should not become a banal definition of a number of customers who saw the ads, and the number involved in the advertiser's site visitors to dollar invested.

The cost of services. The following practice has lately been established: advertising budget is formed only on the basis of official rates in areas involved, deducted the discount given to the customer (usually 5% to 25%). Media planning, advertising, reports and adjustments are made within the advertising company for free. Agency makes a difference between their discount on platforms and those provided to the customer. Additional source of income is consulting, advertising media, design, PR-actions, special surveys of customer orders.

Internet is ready to resolve more issues and significantly affect the company's working methods and overall strategy for its development. The issues that can be resolved by Internet-agencies, include:

- transfer of business processes, documents on the Internet and their optimization;
- sales over the Internet, presentation of goods, orders, payment organization, delivery arrangements;
- increase in customer or company affiliate base ;
- product / service Promotion, PR-actions, warning, branding, company / site / products / services positioning on the Internet;
- personnel search ;
- developing models that will help receive additional revenue;
- customer, partner support, organization of the feedback by network means;
- formation of a permanent audience for the site, attracting an audience to an active server life, effective interaction with the audience and much more. The list goes on.

Ad market is growing rapidly, turnover continues growing due to the new customers that join the network and development of existing dealers.

6.7. Payment systems and virtual employment

Increase in the number of Internet users would be impossible without the development of network infrastructure. Every day the number of services provided in the network is increasing, such as paying bills for mobile services, satellite television providers, utilities, etc.

Payment for purchased online products and services can be done in the following ways:

- by postal money order;
- transfer through a money courier;
- payment for goods or services over the Internet using bank credit cards;
- use the services of Internet payment systems;
- get online access to your bank account and transfer funds to store and so on.

Internet banking is bank services that provide access to customer account via the Internet in real time. One of the services of Internet banking allows making payments online. To realize this opportunity, the online store customer must have a bank account with deposited funds, and Internet shop should have an option of clearing on its site.

Virtual account or electronic wallet. Special Internet payment systems designed to simplify the procedure for payment for the customer, make it anonymous and cheaper. Electronic

cash is an electronic document, signed by an electronic digital signature of a particular natural or legal person, which may include financial obligations towards the other person or bearer. Electronic purse is stored on the hard disk or on special smart cards. In electronic money systems a purchase is preceded by funds availability check. If the test is successful, the operation is allowed.

The best-known payment system using electronic money, is *WebMoney*, among payment systems dealing with user accounts '*Credit-Pilot*' and *Yandex.Money* should be mentioned. The system WebMoney entered the market earlier than others so it is the most popular for network users. The means of exchange in the system are WebMoney (WM) title signs of several types that are stored on purses (invoice) of their respective owners: WM-R is equivalent to RUR in R-wallets; WM-Z is equivalent to USD in Z-purse.

In general, online payment is a buyer's payment order to the bank to pay the online shop seller for goods or services. And the bank must be confident that, having received the payment order and executing it, it does not fall into the above situation in which the customer can dispute a transaction made. If a conflict did arise, it can be resolved through the court. To be lawful, the order should be authorized, i.e. the order text and the author's name should be reliably linked. Authorization procedure also provides the integrity of the document i.e. its irreversibility.

Virtual employment is a result of Internet technology. One should mention some of the probable types of virtual employment: through e-commerce the volume of employment in two fields will increase. They are technical programmers and service providers. Ukrainian programming is quite competitive on the world market, so it should develop the potential.

Providing. Providing requires extremely careful attitude to the client that needs to be ready to solve current problems 24 hours a day. As a result, however, despite the large capital investment, due to the rapid increase in the number of users, it is still one of the most profitable activities.

Web-page creating and maintaining (design, web-mastering). Design and drafting of documents for placing them on the Internet is a viable occupation in case there is a good customer, who spares no funds to strengthen their business or support his own brand. A designer should be both a specialist in graphics, an HTML and Java language connoisseur, be able to freely navigate in new technologies such as VRML and Flash.

Advertising. This kind of business online is at the intersection of professions of advertising agent, of the Web-master and journalist. In order to attract advertisers to the client page, you must, above all, make it accessible and interesting and as a consequence, often visited. Journalists (writing promotional articles, slogans, media plans, policies for advertising companies, etc.) and administrators (online advertising is a very specific process, a person without proper training finds it difficult to handle) also effectively work in this field.

Developing programs for the Internet. Today on the Internet services market this type of activity is very popular, programmers find customers and sell their talents in the network successfully. This process is called "telework". Staying at home, the programmer can work successfully with customers from other parts of the world. This is a win-win: programmer is receiving orders and payments and the customer is not hiring additional employees to the staff, not wasting money on rent, on purchase of expensive equipment and software, getting in the end a quality product, which cost him a lot cheaper than if he had hired a local expert.

Sales of software over the Internet. Despite the fact that the CIS members are characterized by a widespread piracy, i.e., hacking and software sales at low prices, many users (especially large companies and enterprises) have already realized the need to purchase legal software. It constantly expands demand for it, in particular, on the Internet. Thus, most online stores have a special "software" part and some stores specialize exclusively in selling software.

International Internet telephony. The proposal to make negotiations with foreign friends and relatives cheaper is a very attractive one. This requires only inexpensive office rent, equipped with frame relay, signing a contract with a foreign partner (preferably in advance) and advertising this service. Typically, this service is given by providers and Internet cafes. However, in the state of telephone companies' monopoly such an activity unfortunately appears to be illegal.

Information Consulting. The need for this or that kind of information has always existed. Any product has a buyer and seller, and if the consultant brings their information together, he can count on certain fees from the agreement. You can also track and analyze business information, changes in legislation that are very important at present, and many firms and companies are willing to pay for such services.

In the field of information systems and Internet technologies the following professionals are engaged:

First, the heads, they can be named differently: Technical Director, IP-manager, Head of Technical Department and others. However, the contents is the same in all cases they are including professionals, who besides technical knowledge, which are primarily important for their position, possess the skills and experience of the organizer, the ability to manage a team of developers.

To develop and implement various projects a project manager is invited. First, a specialist should have specific knowledge and relevant experience. This means knowledge of special technologies of design and software architecture, an understanding of object-oriented approach in programming, ability to plan and organize the project work, using special tools. One of the main requirements understands of the production process of commercial software in general. A natural requirement for such a specialist is that he has experience of programming in different languages with different technologies. In large companies dealing with software products manufacturing, certain project manager duties may be assigned to systems analyst. In such cases it is he, who will have to develop the architecture and design of future systems and create prototypes. These prototypes would be a scheme for programmers' work.

Programmers write a code for future application – a text in programming language. They need the ability to create software products and deep knowledge of various standard library classes, knowledge of API, the ability to implement algorithms, developed by the analyst into the code. After a system is built, it needs testing. Typically it is performed by a software developer company. In complex projects the development process is more clearly structured, and in this case special workers are employed for testing.

For setting a customer a ready system and maintaining it in working condition experts for technical support, site, web servers, databases administrators are involved, depending on the specifics of the final system.

One should pay attention to such a position as system administrator. Often these professionals are paid less attention than they deserve. No need to apply to him about solving any problems is a positive feature of his work. For the success of projects: (sites, directories, libraries, databases), focused on "content" (content component) specialists, responsible for relevance of information are needed.

To push any company project on the market, particularly through Internet technologies, managers on work with customers, marketing and PR experts are required. As in any other industry, they should realize the peculiarities of their work.

The main job seekers in Internet projects, particularly in information technology in general, are the graduates of technical universities having experience in information technology, or those seeking such an experience. Recently, experts having humanitarian and economic education

(journalists, marketers, sales managers) try to get closer to the new modern information technology.

The use of computer information technologies in companies, including Internet resources, today is appropriate in any sphere of economic activity. Accordingly the need for such specialists will continually grow.

Questions for self-check:

1. Write a definition of "information system of organization."
2. Write the definitions of: "information", "Information Resources" and "data".
3. What is a standard MRP, MRP II?
4. What are standards ERP, ERP II?
5. What are communication channels of the organization?
6. Who has the control of communication processes?
7. Which devices are used for local net organization?
8. What are the basic principles of information retrieval?
9. What search engines do you know?
10. What are the features of online advertising?
11. Name the forms of online advertising.
12. What electronic payment systems on the Internet do you know?
13. Give the definition of virtual employment.

CHAPTER 7. ORGANIZATION OF THE MANAGER'S WORK

Objective: *the formation of skills to organize the individual and subordinate work, to make the basic types of documentation.*

Subject: *general patterns and methods of the management work and documentary process organization.*

Content modules: *management peculiarities, its components. Principles and directions of the management scientific organization. Time as resource. Personal work planning, organization of the manager's working place. Work with texts. Conference and meeting organization and holding. Management of the visitors' current. Telephone contacts rationalization. The basis of the cooperation between the director and the secretary. The usage of the technical means of management. Documents, their functions, types, system of documentation.*

7.1. The basic principles of the manager's work organization

Work organization is a versatile inter-branch discipline, the subject of which is the living labour, that is the labour of workers in the enterprise, firms, joint-stock companies, banks, trusts and so on.

Organization of work within the certain enterprise is the system of means to provide the rational functionality of the living labour, manpower in order to achieve the labour effect.

In the general meaning the labour is the process of turning the natural resources into material, intellectual and spirit benefits, which is made and directed by a man either forcibly or at one's will (or both reasons simultaneously).

The main tasks of work organization are economic, psycho-physiological and social.

Economic tasks are to ensure the rise in productive efficiency and labour productivity by means of decrease in loss and non-productive working time expenses.

Psycho-physiological tasks are to create the optimal conditions of productions and labour efficiency by means of preserving workers' health.

Social tasks presuppose the formation of conditions for personal versatile and harmonious development. For this purpose it's necessary to include into the work the elements of creativity, that enforce its attractiveness, to increase worker's qualification constantly, to keep labour discipline, to raise creative relation to the work.

To fulfill the tasks of work management is very important. To improve work organization on the scientific basis means to economize living past and future labour, to promote normal renovation of the labour, to form highly-developed personality.

Working place is the working activity zone of one or several executives, equipped with necessary means for working tasks fulfillment.

The organization of the working place is the system of means to specialize it, to equip with necessary items for work, their location in the certain order, outer design and to create favorable and safe conditions of work.

Management as the type of intellectual work is characterized by **weak physical energy intensity** and the **high level** of man's **memory** energy use and **mental intensity**. That's why one should pay more attention to conditions of the management process, to mechanize and automate its processes.

Management work organization *means the order, rules of official behavior in the administrative body, which are directed to fulfill current and future tasks by directors, specialists*

and other workers of administration according to official instructions and regulations about structural subunits.

The basis of the management is the division and cooperation in work.

The **divisions of work** means labor activity differentiation and specialization, which leads to separation of some types, if groups of administrative workers do different activities to achieve the general aim.

Management organization presupposes three directions of its division: functional, technological and qualification.

Functional division of work consists in appointment of certain functions of management according to subunits or separate workers.

Technological division of work is the workers' specialization according to three types of work:

1. Guidance to the structural subunit, to make decisions based on the information while working according to certain function.
2. Handling of the information from both the object of the guidance and other sources, and to create the documentary complex necessary for management functions.
3. Execution of the documents, their resending, keeping, registration, sorting and so on.

These three types of work or activity correspond to three types of workers categories: directors, specialists, and other administrative workers.

Division of work according to qualification is the division of work, when workers do different tasks according to their qualification and experience. Thus, deputies directors can be responsible for work of different productive and administrative structural subunits.

Cooperation of work is the form of work organization, which presupposes the participation of many workers and ensures the collective agreement and coordination in one and the same management process.

The manager's working place is a separate office or a part of a general apartment, where he works and where necessary means for certain work are kept. It's also a sphere of the administrative worker's activity or a sum of functions for one manager.

The organization of the manager's working place must be done according to such requirements:

1. *Technical* - taking into consideration the norms of the working space for different categories of the officials, one must project the space for working place, equipment and aisle.
2. *Ergonomic* (gr. **ergon** work + **nomos** law) - productive area must be maximum adapted for a man, his physical, physiological and aesthetic nature, that is the sizes of furniture and equipment is set according to anthropometric requirements. Besides it's necessary to divide the working territory into zones: for work, for meeting and for rest.
3. *Sanitary* - light, ventilation, temperature conditions, humidity, noise requirements and other factors of the environment.
4. *Informative* - comprise the complex of measures as to the informative supply of the working place. The managers' working places must be equipped with administrative communication means, means for folding, keeping and searching of texts and other documents, sketching, computers and other technical means and devices.
5. *Aesthetic* - the outer look of the room, design, interior, color of paint or wall-papers, flowers and so on.
6. *Economic* - efficiency of the worker's activity must exceed the expenses for equipment and service of working place and worker.

Types of manager's activities may be differentiated according to

1. *Content*: complex, economic, commercial, technical, personnel, technological and so on.
2. *Initiative*: one's own initiative, subordinate's initiative, outer initiative.
3. *Period*: perspective, current.
4. *Subject of activity*: work with fixed information, business contacts.
5. *Repetition*: regular, irregular.
6. *Time*: strictly fixed, and with some limits of time.
7. *Urgency*: urgent and not urgent.
8. *Importance*: important and less important.

Henry Mintzberg classified manager's **roles** into three groups.

1 group. Interpersonal roles: the chief director, leader and connective link.

2 group. Informational roles: the receiver of the information, the distributor of the information and the representative.

3 group. Roles, connected with making decisions: enterpriser, liquidator of breaches, distributor of resources, leader of the negotiations.

7.2. Management and Leadership

Taking into account the problem of the leadership in the foreign psychology, one identifies the notions "leader" and "director" (though in German there are two notions). The native investigators distinguish leadership and management as two different notions, characterizing the organized society.

The main differences between leadership and management are the following:

- *sense of notions*: management means the organization of the whole group activity, and leadership characterizes psychological relationships in the group "vertically", that is the relation of dominance and subordination;
- *origin*: management is a logical and necessary attribute of the process of the official organization existence, leadership appears spontaneously as the result of the people's cooperation; the manager as a rule is either appointed officially or elected, and the leader is proposed spontaneously;
- *functioning*: management is a process of the legal organization and management of the members common activity, and leadership is a process of the inner socio-psychological organization and management of the communication and activity;
- *the social role* of the manager and the leader: the manager is a agent of the social control and power, and the leader is the subject of the group norms and expectations, that are formed spontaneously in the interpersonal relationships;
- *the regulation of the activity*: the manager's activity is regulated by the corresponding legal ensuring, the leader's activity is provided by moral-psychological norms of the common activity;
- *the mode of the outer contacts*: the manager represents the group in the outer organization and makes decisions, connected with its official relations outside; the leader's activity is limited by inner relations of the group;
- *stability*: management is stable, not depending from the changes in views and spirits of the organization members.

These differences lead to the following definitions of "management" and "leadership":

Management is the process of the legal influence, made by the manager on the basis of the power, given by the state or the group (in cases of the elections of the manager).

Leadership is the process of the psychological influence of the one person into the others during their common activity, made on the basis of perception and imitation, contamination and persuasion one another. Leadership is purely psychological characteristics of some members group.

Imitation (copying), contamination and persuasion are the main four elements of the administrative influence structure.

Different scientists tried to distinguish the necessary characteristic features of the manager. This problem is under discussion in the foreign psychology of the management. At first it was expressed in the so called "**characteristic features theory**" (also called "**charismatic**" theory). According to this theory not every person can be a leader and a manager, but the person with the inborn personal characteristic features or a sum of certain psychological characteristics.

The later researches show that some regularity exists and there are some typical features. But the psychologists-behaviorists in their "behavior theory" prove that the features of the leader cannot be supposed as purely inborn. Some of them can be gained as a result of the education and experience. This theory is investigated to display universal features, immanent to leaders.

The later researches show that some regularity exists and there are some typical features. But the psychologists-behaviorists in their "behavior theory" prove that the features of the leader cannot be supposed as purely inborn. Some of them can be gained as a result of the education and experience. This theory is investigated to display universal features, immanent to leaders.

The **situational theory** is wide-spread in the foreign psychology. The accent is not on the leader's features but on the analysis of the situation and the object of the management. That is the leadership appears as the answer to situational requirements. In other words, this approach dwindle the role of the personal activity, his features and circumstances become the main. Features are like one of the situational variables. The others are: the seize and the structure of the organization, the type of the work done, individual peculiarities of the organization members, the time of making decisions, psychological climate of the organization and so on.

But there are people, whose competence meet all the situational requirements, they are professional, but they are not apt for management. Besides, in practice when there is the change of tasks in the organization and thus the change of situation, the often change of leaders is not available. In spite of all shortcomings of the "situational theory" one should acknowledge that the leader must have not only some features but other factors as well.

Nowadays the synthetic theory of leadership is the main. According to it the leadership is a process of the group interrelation organization, and the leader is a subject of this process management. By this approach the leadership is the function of the group, that's why it must be investigated from the point of view of group aims and tasks. This theory is the only to see the process of the management as the complex. The character of the leader's role is influence by three variables: qualities of the leader, followers or famous and the character of the situation, where the leadership takes place. On the one hand, leader influence on the famous and the situation, on the other hand- their influence on the leader is also important.

The **style of the management** is a stable system of ways, methods and forms to influence the manager that creates a special script of the administrative behavior.

There are such types of the management:

Authoritarian (or dictatorial) style of management is characterized by the stable one-sided solution of the manager ("minimum democracy"), firm constant control of decision fulfillment with the threat of penalty ("maximum control"), no interest to the worker as the personality. Due to constant control this style of management ensures completely acceptable results: profit, productivity, quality of goods. There are also more drawbacks, than advantages: a high rate

of mistakes; suppressed initiative, creative work of the subordinates, innovations are slowed down, stagnation, workers' passiveness; people are not satisfied with their work, their place in the group; unfavorable psychological climate ("heelers", "scapegoats", intrigues) leads to higher psycho-stress intension, harmful for psychological and physical health.

This style of management is appropriate and justifiable only in the emergences (break-downs, war actions and so on).

Democratic (or collective) style of management: administrative decisions are made after discussions, taking into account thoughts and initiatives of the workers ("maximum democracy"), the manager and the workers control the fulfillment of the decisions ("maximum control"), the manager is interested and attentive to their personalities of the workers, their interests, needs and peculiarities.

Democratic style is the most effective, as it ensures high probability of the right confirmed decisions, high productive results, initiative, activeness of the workers, satisfaction of people by their work and membership in the group, favorable psychological climate and unity of the group. But the democratic style is implemented only within high intellectual, organizing, communicative abilities of the manager.

Liberal-anarchic (or neutral, or the style of connivance) **style of management** is characterized: from the one hand by "maximum democracy" (everybody can tell their opinions, but agreements not willingly achieved), and from the other hand "minimum control" (even approved decisions are not fulfilled, their fulfillment is not controlled). the results of the work, as a rule, are low, people are not satisfied with their work, their manager; psychological climate in the group is not favorable, no cooperation, no stimulus to work hard, the elements of the work are interests of different leaders of the subgroups, latent and actual conflicts, layers of the conflicting groups.

Inconsequent (illogical) style of management is unexpected turn of the leader from one style to another one (either authoritarian, or liberal, or democratic, or authoritarian again and so on), that causes the lowest results of the work and the greatest amount of conflicts and problems.

One should distinguish here several important **remarks**:

- pure styles are very seldom implemented;
- among all mentioned style there is no universal one, suitable for all situations;
- efficiency of the management depends firstly upon ability to use positive features of some style and to neutralize its weak points.

There are the following factors that influence on the choice of the style in management:

Objective factors:

- *type of organization* (productive, selling, scientific etc.);
- *specification of the main activity of the organization* (productive, selling, educational, scientific etc.);
- *specification of the tasks* (simple and complicated, new and usual, ordinary and urgent, standard and non-standard; current and unexpected etc.);
- *conditions to solve tasks* (favorable, unfavorable, extreme etc.);
- *methods and means of the organization activity* (individual, collective etc);
- *development level of the organization*;
- *style of management, forms and methods of the superior manager's work*;
- *stage of the administrative hierarchy of the manager*. The researches of the psychologists show that the higher stage the more inclined manager to authoritarian acts, and the more complicated and involved forms this authoritarianism possess;

- *Coincidence of the manager's style and the expectations of the subordinates.* Psychologists proved that groups with high level of development and education expect the democratic acts of the manager. And vice versa, groups with low level of development expect firm and concrete acts of the manager.

Subjective factors:

- *individual - psychic features of the manager* (character, temper, abilities, volitional qualities etc.);
- *available manager's authority.* Authoritative manager, as a rule, is more democratic, because the authority is the power to influence on the subordinates apart from administrative influence. And vice versa, manager tries to make up the absence of the authority for firm, directive acts;
- *level of the general and administrative culture, education* (esp. knowledge of basis of the management);
- *available general and administrative experience.*

The general meaning of the **delegation** is *a temporary transfer of the task or activity from the sphere of manager's work to the subordinate.*

Authority is the limited right to use resources of the organization.

There are certain rules and recommendations to the delegation.

Things **not to be delegated:**

- the most important functions of the manager (to work out ideas and politics of the organization development, to select the team, to estimate and to control results, to praise the members of the team);
- the management under the staff, their motivation;
- tasks with high level of risk and importance;
- unusual, exceptional tasks;
- urgent tasks with no time for explanations and reexamination;
- tasks of a strictly trustworthy character.

Things **to be delegated** anyway:

- routine, trifle work (to sort out documentation, to answer redundant telephone calls, to type the letter, account, to deliver letters to the post);
- specialized activity (activity of the specialists in their sphere, e.g. accounting, marketing analysis);
- separate questions;
- preparatory work (projects etc.).

Try to delegate:

- if the work can be done by someone with lower salary than you earn-or less than you try to (don't change lamp at the working place, there are specialists for this work);
- if you lack knowledge, skills or experience for doing the task (an attempt to do it takes a lot of time but leads to undesirable results, with more expenses and costs of work);
- if the task promotes the professional rise of the subordinates (you 'd not only save the time but allow others to improve their skills).

The subordinate may *resist the delegation* from different reasons (lack of knowledge and experience, fear of critics, fear of responsibility, extra requirements etc.). In this case one must speak to him about it openly, try to find reasons and come to common decisions, using stimulus.

The scheme of the delegation process is the following: to prepare the subordinate; to explain the task; to show how to solve and what to do; to entrust the following decisions under

observation, correcting the subordinate and to transfer the work to the worker and then only to control everything.

7.3. Management of the formal and informal communications

Communication in the broad sense is the rendering of the information from one person to another, exchange of thoughts or information for mutual understanding. In the narrow sense it is a net of canals and ways to exchange information and thoughts in the organization.

Communicative process is the process of exchanging information between two or more persons. The main aim is to ensure the understanding of the information, which is the product of exchange.

Communication in the organization performs four main functions:

- *administrative* (with the help of imperative messages);
- *informative* (informative messages);
- *emotive* (expressive messages, rendering emotive feelings);
- *phatic* (aimed at establishing and keeping up the contact).

The main reasons for poor communication in the organization include the following:

1. Insufficient understanding of the managers as to the importance of communications, lack of feedback.
2. Unfavorable psychological climate in the organization.
3. Personal moments.
4. Incomplete information perceived and transmitted.

By the degree of formalization the whole flow of information can be divided into formal and informal communication. Formal communications are presented by the system of documentation in the organization:

1. Organizational-regulatory documentation:
 - organizational documents: regulations, statutes, instructions, protocol;
 - regulatory documents: orders, instruction, regulations;
 - documents of the executive activity: reference, act, memoranda, explanatory notes, official letters, telegrams, telephone message, fax, driving on trips, etc.
 - personal official documents: orders, statements, certificates, receipts.
2. Special documentation. The special documentation system reflects the specificity of the management systems activity. For example: a system of planned, financial records, documentation of logistics and marketing, human resources documentation etc.

Modern leaders need the ability to act in various situations of communication and interaction competently, including the situations of different rumors, conjectures, stories.

The rumor - news about someone or something, the message about any event, not confirmed, that is transferred to the mass of people one person to another. The nature of the rumors may be objective (or natural) and subjective (or purposeful).

The conditions and causes of the substantial nature must include:

1. Interest of the audience to a certain topic. Psychologists found a pattern: most absurd message if it is of interest can be passed on and capture a large audience. The main is not so much authentic information as unsatisfied interest.
2. Lack of reliable information on topics of interest. Here it is not the objective probability of available information, but a subjective assessment of self-awareness. Social practice showed two patterns: first, the most accurate information from unauthorized sources stores information

deficit, but the false information from a prestigious source for this audience eliminated the deficit and block the spread of rumors. Secondly, the rumors circulating intensity is directly proportional to the audience's interest to the topic and inversely proportional to the number of official posts at the moment and to the degree of trust in sources of information.

Rumors appear under the influence of the conditions and causes of functional character: the realization by rumors need to communicate, facilitate interpersonal contacts; implementation of unmet needs in self-affirmation in the group, striving to reduce the emotional tension in the large group and compensation of emotional failure when the situation devoid of significant events.

Classification of rumors:

1. On the space basis rumors are divided into local (i.e. significant for a small social groups), regional, national and international.
2. According to the expressive ground (i.e. the type of emotional reaction) rumors are divided into "rumor-desire," "rumor-afraid" and "aggressive rumor".
3. According to the degree of reliance rumors are divided into: completely unreliable, i. e. reflecting only the mood of the audience, inaccurate in the main elements of plausibility, plausible rumors, that is relatively close to reality and reliable with elements of implausibility (most dangerous).

The process of hearing in circulation meets three stages: smoothing, sharpening and adaptation. In the process of smoothing hearing becomes less and shorter due to the disappearance of those details that are for this audience immaterial. The sharpening increases the scale of details that are for the audience (e. g. number of actors, the number of victims, degree of success or failure, etc.). Adaptation is designed to adapt hearing to mental needs of the audience, under the dominant model of world for the audience.

Measures for preventing and countering rumors: The main thing in implementing preventive measures is to create an emotional atmosphere in society and in organizations that would prevent the spread of rumors. The main activities of the manager to prevent rumors might be:

1. Creation and maintenance of efficiency of information systems organization. For this aim managers must identify: the required level of information that the subordinate would set for optimal performance of his functions, and appropriate form, suitable time points, intervals of information.
2. Targeting workers on safe and reliable means of information, publications and others.
3. The presence of stable feedback.
4. Support for effective leadership at all levels. In particular turning points managers are the main source of information. The leader creates the mood of the group.

Measures of the active counter are undertaken depending on the audience, which spread rumors. When the confidence in the sources of information is low, a direct denial on the contrary may cause rumors circulation. In this case - without mentioning the rumor and its story, one must find indirect cause for massive information transfer, the content of which is radically contrary to the contents of the rumors.

When dealing with the source of rumors one should follow these rules:

1. No excuses. Use less space denials and assertions, more concise and specific issues of disagreement.
2. Work with the "source of rumors": you must ask about where he learned this information. During the meeting one should make a specific person doubt the feasibility of disseminating information, and for that ask him to convince the likelihood of rumors. As a rule, the rumor is difficult to justify.

7.4. *Forms of business communication*

The main forms of business communication are the following: business conversation, business negotiations, meetings, meetings to address the audience, receiving visitors and guests, participation in presentations and exhibitions, working with documents and others.

Each of these forms imposes specific requirements for those who take part in the communication. However, there is something in common that unites all these forms of business communication - the desire to solve specific business problems. In their totality, these forms of business communication are the basis of administrative work of the supervisor.

Business conversation. In the most general sense a business conversation is understood as a verbal, nonverbal role communication with the conscious desire of one person or a group of people to induce another person or a group of people to action using words; which will change the situation or establish new relations between participants of the meeting.

Forms of the business conversation varied, but each of them traditionally held a number of stages: 1) start of the conversation and establishing the contact, 2) transmission of the information, 3) argumentation (the expression of their arguments, listening to the interlocutor's arguments, acceptance or refutation of these arguments), 4) summarizing and making a decision.

1. **Objectives** at the beginning of the conversation are:

- establishing contact with interlocutors;
- to create a nice (comfortable) atmosphere for conversation;
- to catch interlocutor's attention;
- awakening interest in the conversation;
- sometimes, if necessary, to "intercept" the initiative.

One should use such **techniques of the beginning of the conversation**:

- technique of removing tension (warm words or phrases to the interlocutor, appropriate joke)
- technique of "pretext" (to tie an event or a problem with the content of the conversation);
- technique of imagination play stimulus (to put many questions about issues under discussion at the beginning of the conversation);
- technique of the direct approach (the direct transition to the case).

2. Phase of **rendering the information** - the second phase of a business conversation. It creates opportunities for reasoning and consists of four stages:

- identification of the problem;
- rendering of the information;
- consolidation of information;
- indicate a new direction of the information.

3. Phase of the **argument** - the most difficult phase of the conversation, it requires extensive knowledge, attention, full of self-control, vigor and accuracy of statements, but we largely depend on the interlocutor.

4. The fourth phase of the conversation – **the decision** - benefits our efforts and the business talk.

With the help of the decision the main goals that stand before us are achieved:

The rules to finish the meeting:

- Contact freely the interlocutor to the issue of whether he agrees with our goal. In all cases, expect the interlocutor to agree with our goals;
- Do not show uncertainty in the phase of the decision and do not be too tense. If you have doubts taking the decision, do not be surprised if the interlocutor will hesitate too;

- Try to make the interlocutor to agree easily with your conclusions and recommendations.

Problematic or disciplinary conversations. This type of conversation exists with the help of the facts of misconduct or deviation from established rules and regulations of the day. The main purpose of these conversations is not to punish the guilty, but eliminate the "bottleneck", i.e. the discrepancy between the requirements and the actual behavior of participants in the business process. Preparation and holding of such meeting includes three main stages:

The first phase is the *preparatory phase*, during which the manager must objectively examine the issue, i.e. when, how, with whom it occurred, what was the reason of its appearing. Next, you must carefully think through the tactics of the conversation. The main purpose of this is to make an assistant to accept a manager's position either as to the specific sins or as to penalties; the talk should be directed to the improving the future work of the employee.

During the next stage (*conversation*) it is important to create a positive background for employee. And only after the creation of this background one should proceed to a nasty part of the interview. Naturally, for such talks, managers must find the time and place where you can talk privately.

The final phase of conversations is very important. Baby talking, flirting, bullying is not suitable at the end. The decision on punishment should be expressed simply and clearly, with an emphasis on understanding and correct assessment of what has happened. It is important that the defaulter has heard phrase on the assessment of his former achievements. It is important to remember that any conversation (including the problematic) must begin and end on a positive note. This creates an appropriate emotional atmosphere that allows you to build a conversation in the right direction of the head.

Often in business communication **meetings and sessions** are used to enhance the quality of decisions.

Meeting is a form of business communication that involves the discussion of business situations and problems for the collective search of the most expedient ways of their solving. Sessions are similar to meetings but it's more efficient to analyze the differences (Tab. 7.1).

Table 7.1

Key differences between the meetings and sessions

The list of features	Meetings	Sessions
The circle of participants	Specialists of interested individuals	The whole stuff or it`s representatives
The range of questions	Specific present-day questions	General questions, accumulated for a definite period
Objective	Operational decision	Summing up, future plan-making

Meetings have several notable **advantages** over other forms of business communication:

- meetings allow to address comprehensively the issue involving different facts;
- meeting provide efficient preparation of alternative solutions;
- meetings provide an additional opportunity for personal and business knowledge as partners involved there;
- meetings provide a psychological effect: the atmosphere of collective discussion emotional conduct, statements and other implications influences every member.

However, these advantages of the meetings may occur only when the meetings are not misused and they are carefully prepared (Tab. 7.2).

There are three basic types of meetings: *problematic, instructional and operational (controlling)*.

To find the optimal solution through discussions the *problematic meeting* is used. The procedure presupposes a report, answers to questions, a discussion and a collective decision.

If it is necessary to submit vertically the order from the authority down to the assistants for their fast fulfillment, the instructional meeting is used. The procedure of its holding includes such important issues as problems and clarifications of instructions, answers to assignment deadlines and executives.

Often it is necessary to obtain information about the current situation in areas, in the departments of the company or organization. For this purpose the operative (*controlling*) meetings are held. Arrangements for that meeting includes: hearing the reports of the assistants on the current situations in certain areas, on the current solution of problems on the basis of information received.

Table 7.2

General scheme of the meetings

Organization of meetings		
TRAINING PERIOD	DATES	FINAL PERIOD
<p>The manager should:</p> <ul style="list-style-type: none"> • to determine the agenda, the key problem and the eligible number of participants (maximum 8 - 10); • to inform the participants about the meeting date, time and venue, as well as a key issue and the agenda. Time and date should coincide with the day that is traditionally allotted to such activities. 	<p>The manager should:</p> <ul style="list-style-type: none"> • to start exactly on time; • using an opening statement clearly formulate the goal and objectives of the meeting; • to coordinate the rules of the meeting with its timeline; • to appoint the responsible for the record-keeping of the meeting; • do not start the meeting with criticizing and severe reprimand of the subordinates. 	<p>The manager should:</p> <ul style="list-style-type: none"> • to sum up the results of discussion; • to give his own opinion on the decision taken (although sometimes his decision he can be taken after the meeting, when thinking over all suggested variants); • to thank all participants of the meeting for their work; • to inform the direct executors about the decisions taken (in
<p>Unexpected meetings are possible only as an exception;</p> <ul style="list-style-type: none"> • to acquaint the participants of the meeting with the background information and materials relating to the issue at hand; • to reason out the time limit of the conference; • to prepare the meeting room for the conference (the lighting, ventilation, possibility to use the electrical equipment • availability of equipment (seats etc.) 	<ul style="list-style-type: none"> • If you start with critical remarks you may consider that the meeting is finished; • to give each participant the time to prepare for discussion, to ensure impartiality in evaluation the statements; • from time to time one should switch attention to the analysis of the discussion (to figure out which positions are determined, what are the barriers and other difficulties.) to keep from digressing the main problem. 	<p>case they were not present at the meeting);</p> <ul style="list-style-type: none"> • to organize supervision over the implementation of decisions taken at the meeting.

On the average a representative from the business world speaks more than ten thousand words during the day. In other words, **public speeches** are the best constant advertising of the manager. Any speaker has to face a number of consecutive tasks:

- 1) *to draw the attention of the audience* (quote, history, links to the Bible, myths and rhetorical questions, historical episode, paradox);
- 2) *to inflame people with energy and to convey the opinion of your speech to them* (to involve everyone in a conversation, to show the importance of the problem, all speech should be well-

planned, balanced, have a clear focus and logic, to lay all the material elements; realize the key idea that underlying your speech);

- 3) *to capture listeners' attention with your idea* (facts, figures, examples, comparisons, logical conclusions, visual materials, statistics);
- 4) *to develop and consolidate the success, to bring it to life* (check availability of the report, once again summarize the main deductions).

The scheme includes **communication by telephone**: word greeting, presentation, i.e. full name (as far as social status, position, rank, etc., that they are stated for each certain situation specifically), asking whether the interlocutor has free time at the time; summary of the substantive issues on which we should find out (better to pre-plan), ending of the discussion (if the interlocutors are equal, the one who called first should finish it, in the case of seniority – the senior but if junior needs to interrupt the conversation, he must apologize, explain the reason and ask for permission to finish the conversation).

Algorithm for better business negotiations is better seen on a scheme (Tab. 7.3).

Table 7.3

Algorithm for business negotiations

The succession of steps	What should be done?
Preparation for negotiations	Collect information on the subject and all participants of the negotiations. To identify the goals and limits (in written form). To defines your point of view. Develop a model for future negotiations.
Initial meeting	Choose the right place and location for the interlocutors. Plan the number of participants. Determine the agenda and duration of the meetings. To be in good physical shape. To be dressed up to the company`s dress code. Emotionally keep away, keep control during the discussion of the issues.
Talks on the phone	Don`t be intrusive. Get ready to talk on the phone (call plan in writing). Always speak politely to the secretaries. If the subscriber does not answer, leave a message. Speak accurately, deliberately, without using parasite-words and slang.
Delivery of an agreement	Analyze the process: Does the agreement correspond to the objectives and limits? Are you able to execute your part of the agreement? Will you do it? Is the other party able to execute its part of the agreement? Will the other party do it?

7.5. Scheduling of Manager's Work

The main factors that determine the maximum (and most expensive) time loss are so-called "time sinks" (or chronographs): unnecessary or lengthy phone calls or visits, talkative visitors and staff etc., unclear definition of goals and priorities. As a result people are drowning in frivolous cases instead of solving serious problems; poor planning which causes manager's helplessness in distributing time to get things done and not even knowing how to start the work; weak organization of employees and self-organization of a manager, lack of discipline, distraction on petty work, slowly rocking, doing the same work for many times; lack of information that cannot allow to make immediate decisions; their delay other because of manager's indecision, inability to work with partners, visitors, employees, deal with telephone calls, holding of the efficient meeting.

The basis for **rational use** of work time is its **planning**.

So this is a planning algorithm.

1. *To compile a list of works.*
2. *To identify the actual duration of cases* from which you can set start and end dates of work and link them. One should hold a *special observation*, study own time spent during the day and timing by using photos (made by yourself) of a business day.
3. *To analyze the time:*
 - 3.1. Selecting the purposes of analysis. Such *purposes* can be the determining of the actual time spent on individual work or the development of standards, identifying the amount of time, improving the communication system, etc.
 - 3.2. Comparison of actual time spent with the regulations.

Time norm is a time dimension which is necessary for making a product unit or a group, for doing a task by one executor or several according to the qualification in the defined organizational, technical and climatic conditions.

Time standard is a relative indicator that is regulated by time spent on individual elements of manufacturing operations, established in rational terms, taking into account best practices and methods of work, modern equipment, proper training of the executor.

However, many manager's work standards are absent, and sometimes simply impossible to establish. In this case you can use the method of comparing the actual time spent of a certain manager with the average amount of spent time of other managers who are at the same level or with his own average expenses.

4. *Development of work plans (including subdivision).* After the general mode of operation is elaborated, one can calculate the real-time foundation work and start planning events for a fixed period. Planning should be either long-term (year, quarter, month) or operational (week, day).
5. *Work schedule.* Work plans and schedules of the manager should be especially well coordinated with the plans and schedules of superior managers and, in turn, serve as a base for graphics of the lower levels control managers.

You must remember **the principle of Vilfredo Pareto** that tells us about time management: ***80% of the time and effort are spent to obtains 20% result, while the other 20% of the time and effort leads to 80% results.***

One should single out such plan periods in the business life of the manager:

- long-term goals (plans for several years) - 3-5 years (or more);
- medium-term goals (annual plans) - 1-3 years;
- current goals (weekly, ten-day plans) - 1 week - 3 months.

Planning of time is shown in Fig. 7.1. It should be noted that planning should begin with a long-term goals, such as annual, quarterly, month, ten-day (or week) goals and at the end daily work plans are developed on the basis of long-term goals.

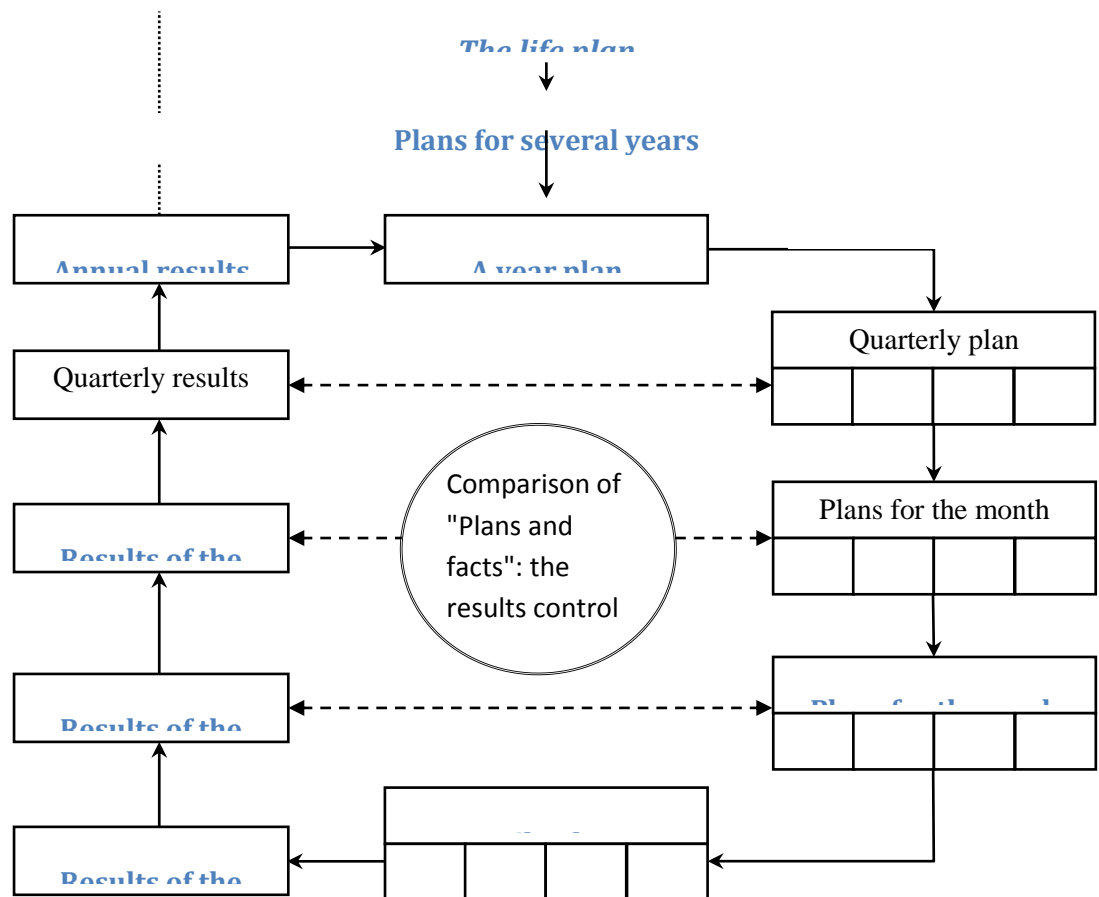


Figure 7.1 – Manager plans system

Daily plan is the most important stage in the system of planning time, the concrete realization of the goals. Planning is a gradual move forward, decomposition of the main task, so that different actions can be planned in time.

The basic principle of planning time: 60% is a planned activity, 20% is an unexpected activity (reserves of time and unplanned action), 20% is a spontaneous activity (management activity, creativity).

The rules of planning are:

1. Analysis of activities and spending time. It should be documented and verified as to time spent.
2. Uniting of two tasks into a coherent whole is a planned action.
3. Regularity - systematic - sequence.
4. Realism
5. Flexibility
6. Supplement of the time losses. If you can immediately fill up the loss of time, it's better to remain at work till evening then to compensate it on a Friday evening.
7. Writing. Daily plans that are kept in mind can be easily postponed. The plan, which is recorded in writing, has a psychological effect to motivate yourself for work. Business activity becomes more targeted and focused on compliance with a clear program of the day.
8. Postponing of undone plans. If the problem turned out to be incomplete, we must analyze the advisability of the postponing, and if possible, put off the task and do it for the next time, or we can either leave it undone.

9. Fixing of results instead of actions. You must fix in the plans results (final stage), not just actions. For it's better to use semantically precise words, for example, not "Call Kim" but "ask Sidorov about..".
10. Defining the term of the fulfillment.
11. Setting the priorities.
12. The delegation of cases. From the beginning it is necessary to set in our plans what job should be done by the manager personally and what can be delegated.
13. Fighting "time sinks" and finding time reserves.
14. Finding time for planning and creativity, etc.

The "Alps" method proposed by L. Seiwert is rather simple. The method consists of five stages:

1. **Definition of the day activities (tasks).** You must write down everything that you need to do the next day. It is recommended to use shortenings that correspond to the kind of the activity or headings in the form of the "daily plan" For example, B - visits, meetings, K - control, P - a process in the case; MF - trips, travel, PR - paperwork, business letters, dictation, T - telephone calls; V - the reading process (reports, laws, regulations, newspapers, etc.).
A realistic plan should always be limited by manager's capability to cope with the task.
2. **Assessment of the activity duration.** It is necessary to put an approximate time for tasks fulfillment, and summarize the approximate total time (Tab. 7.4).

Table 7.4

Daily plan (first two stages due to Seiwert)

Marks	Measures (problems of the day)		Time, hours	
P	The market studying project		3.0	
B	Mr. Sydorenko (the expert evaluation of the company staff)		1.0	
CS	The seller of computer equipment for outfitting the subdivisions		2.0	

Table 6.4 (continued)

PL	A proposal letter for partners in Vilnius (the analysis of the assortment, pricing policy and partnership variants is necessary)		2.0	
T	Mr. Ivanenko (quarter sale statistics)		0.25	
T	Mr. Pertenko (no staff available for the exhibition in April)		0.75	
J	Special journal for managers		1.0	
	Sum total:		10.00	

3. **Backup of the time.** While making up the plan we should keep to the basic rules of planning time, according to which the plan should cover 60% of your time and about 40% should be retained as reserve time for unexpected cases. If proceeding the 8-hour work day, the scheduled time will occupy only 5 hours.
4. **Making decisions on priorities, reduction and substitution.**

The aim is to reduce the time for fulfillment of the tasks to 5-6 hours per day.

For this we establish single, unambiguous priorities for our affairs and check again the calculated need in time and reduce the time to the required one (but realistic). Each action should be considered in terms of the possibilities of substitution and rationalization. In the final version the daily plan in our example will look as follows (Tab. 7.5)

Table 7.5

Daily Plan (the final variant due to Seiwert`s method)

Marks	Measures (problems of the day)	Priorities (A,B,C...)	Time, hours	Delegacy
P	The market studying project	A	3.0	To entrust 2 hours to main marketing specialist
B	Mr. Sydorenko (the expert evaluation of the company staff)	A	1.0	
CS	The seller of computer equipment for outfitting the subdivisions	B	2.0	To entrust it to the engineering department head under control
PL	A proposal letter for partners in Vilnius (the analysis of the assortment, pricing policy and partnership variants is necessary)	A	2.0	Entrust 1 hour to the reviewer – to gather all necessary information and prepare the drafts
T	Mr. Ivanenko (quarter sale statistics)	A	0.25	
T	Mr. Pertenko (no staff available for the exhibition in April)	B	0.75	
J	Special journal for managers	C	1.0	
	Sum total:		10.00	

5. The control and postponing of undone plans.

Experience shows that not all tasks can be done and not all phone calls can be hold. That's why they can be postponed for the next day if it is appropriate.

If to postpone the same task for many times, it becomes a burden, and then there are two possibilities: 1) to complete it finally, 2) leave the case because sometimes the problem can disappear.

Advantages of the method by Seiwert (the "Alps") are: better mood for the next working day; a clear understanding of the problem for the day, organizing business day, overcoming of slipping in mind; concentration on the most important things, reducing the amount of "paperwork" ; achieving of daily aims; selection of more important and less important matters, decisions on prioritization and delegation; rationalization by means of grouping tasks, reducing of clutters and unwanted interruptions, self-discipline in carrying tasks, reducing stress and anxiety violation; calm acceptance of unforeseen events, self-improvement, feeling successful end of the day, increase satisfaction and motivation, personal growth results, gain in time due to the methodical organization of time.

Given above the successful use of technology in time planning and methods of scientific organization of every day work can save 10 to 20% of the time.

7.6. The realization of manager's work activity

The work ability of each person is exposed to certain fluctuations, which are held within the natural rhythm (day and night). For example, people say so about so called "morning person" or "lark" or a "night person" or "owl" and "dove" whose life tempo is not tied to a specified time period. The peak capacity of such people occurs in different periods of the day. The fluctuation of

average performance during the day can be shown with the help of the curve (schedule performance fluctuations) (Fig. 7.2).

The absolute peak and decline meaning in productivity is individually different, but relative, rhythmical vibrations are common to all people. To the phases of higher activity adjacent two-hour break are corresponded, during which the body works in the savings mode and should not be overloaded.

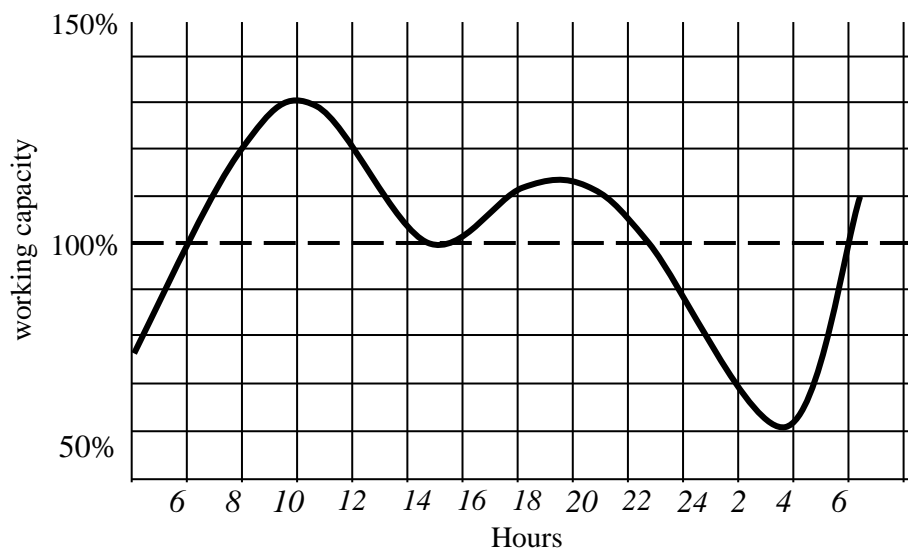


Figure 7.2 – Schedule of the ability to work (for a "lark")

As a rule *peak capacity* occurs in the first part of the day when the stomach, pancreas, spleen and heart functioning is most active. This level during the day is no longer achieved. That's why ***immediate problems should be solved in the first part of the day.***

After noon when small intestine functions, the productivity declines which the majority wants to fight with the help of coffee. At this time it is better not to work against your rhythm. It is better to relax with a cup of tea and use the break for ***social contacts and routine activities.***

The idea of management based on the work ability design is not to work against the natural rhythm of daily capacity, but to make use of cyclical fluctuations increasing the final result!

Because of the break of a day rhythm defects, errors in work, injury may happen. It is proved that the largest number of injuries during the night occurs between 2 and 4 a.m. (hour of a "wolf") when the human brain has to relax and the control over the actions is the weakest.

Thus, we can suggest the following guidelines for managing labor activity:

1. According fluctuations we have to alternate hard responsible activity and less important, unbending work with less responsibility.
2. Make something every day to maintain efficiency (charging, exercise). Remember that along with the work ability quality of your work changes too.
3. The most important cases and cases that require the highest concentration should be on the highest point of your graphic performance.

Along with regular daily fluctuations of performance there are other biological rhythms for longer periods of time - biorhythms.

The doctrine of biorhythms is based on the fact that *physical, mental and intellectual parameters of each person see the cyclical fluctuations which can be calculated and predicted.*

The purpose of the science of biorhythms is to detect changes of biological vitality of a man (from peak to decline) and thus to make it possible to plan the activity in the so-called strong

and weak days. On this base the management biorhythm can be an effective tool for successful self management.

There are three separate rhythms:

Physical rhythm (duration of the period is 23 day, drop occurs every 11.5 days). It affects the physical strength, endurance, confidence and willingness to act. You can plan trips, operations, dental treatment for the peak periods. During this period the body resistance is maximal. In the phase of decline reluctant to work, susceptibility to disease appears. At this time particular care should be paid to avoid physical exertion and unusual situations to the body.

Mental rhythm (duration of the period is 28 day, drop occurs every 14 days). It causes mental state, capacity for harmonious communication, cooperation and creativity. During a peak period a person feels harmony with the environment and people. It's an auspicious time for exams, participation in competitions for public speaking, acquaintances and business contacts. The decline is characterized by negative emotions, tiredness of communication, difficulties in "team" work, sometimes depression.

Intelligent rhythm (duration period is 33 day, drop occurs every 16.5 days). It affects mental ability, concentration, memory and reaction. On a peak people experience the spiritual temperament, accept the new information well, have a good memory, concentration and adaptation. It's an auspicious time for important decisions, studying of heavy subjects, making plans and exams. During the recession (the accumulation of energy) the deterioration of memory and mental ability, the ability of nut are observed. It is better to use this time for routine, collecting, organizing information, repetitive actions.

At points of phases transition there are changes of biorhythms, and at this time spontaneous normal physical functions, efficiency, control of the will and mind may occur. Since during those days our body is regenerating from the phase of activity into the phase of calmness, we should save energy and not be loaded. Times of critical points usually go during the times of a person's birth (Fig. 7.3).

Basic rules which the manager should follow are the following: to maintain the records of internal "clock" mechanism, not work against his rhythm, i.e. in periods of calmness and the critical points to accumulate energy while doing the routine work and in periods of activity to move forward with new forces, to make dreams come true, to be careful in the transition points and manage the activity. Also you do not need to idealize the role of biorhythms in the life of a business person. Biorhythm graphics indicates only the trend but the future is determined by the man himself.

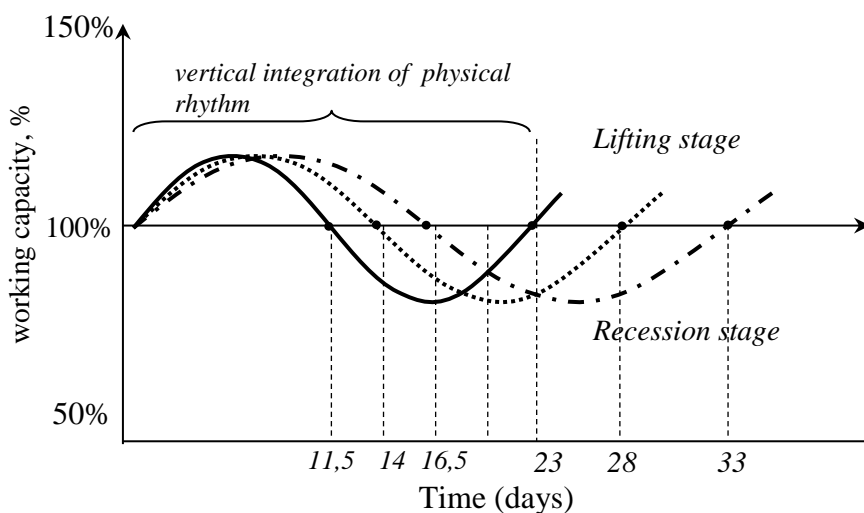


Figure 7.3 – Biorhythms of a person, where:

- - physical biorhythm;
- - mental biorhythm;
- · - · - - intellectual biorhythm;
- - transition points (critical points);

6.7. Economic efficiency of manager's work

Efficiency in the broad sense means the ratio between the result (effect) and expenses.

Under the effect we understand the result of efforts or activities. In the narrow context the effect is considered as the result of the industrial activity.

The efficiency of production - 1) the ratio of the effect of the amount of attracted resources involved in obtaining this effect, 2) the optimal level of resource utilization, the degree of achievement of general and specific results of the organization.

The notion of "efficiency" includes the following criteria:

1. In the sphere of functioning: general (the whole enterprise), local (single stage of production, distribution, etc.) and partial response (efficiency of individual resources).
2. In the sphere of production terms: macro-and microeconomic efficiency.
3. According to the objects: the efficiency of current production, capital efficiency, the effectiveness of science and technology, foreign trade, environment, etc.
4. According to the appointment and calculation of methods: absolute (characterizes the overall effect or impact on resource utilization and costs) and compare the performance (characterized by the economic advantages of one option over another relatively to the efficient use of resources and costs).

Economic efficiency of management experience is more limited concept and means of living and saving reified labor, *acquired in the management of tangible and intangible production by optimizing and streamlining management.*

In general the efficiency of administrative work can be presented as follows:

$$E_y = \frac{\text{Effect (result)}}{\text{administrative work expenses}}. \quad (7.1)$$

As a result of improved businesses management the enterprises receive ***economic and social effects***: increased production, provided rhythm of the enterprises, achieved economy of living and reified labor, increased product quality, improved and changed nature of work, increased work satisfaction, reduced staff turnover. However, not all elements of economic and social effects are quantified. This complicates the evaluation of management efficiency. It should be taken into account that not only quantitative but also qualitative indicators.

The indicators that characterize the work in the fields of management include: reducing the complexity of processing management information, reducing management, information processing terms, reducing the loss of working time management by improving the organization of labor mechanization and automation of labor-intensive operations in the area of management. This indicators are measured by their quantity. Such indicators in the sphere of management as training management, quality work, improved working conditions, the validity of administrative decisions, risk management and other are not measured or even are incompletely measured.

The quantifiable indicators in the sphere of influence of administrative work on the production are: increase of profits and sales, productivity of growth labor, reduction of fund,

increase of capital productivity, accelerating turnover of the working capital, increase of profitability, reduction of non-production costs, reduction of labor production intensity, reduction of work in progress, reduction of production costs, saving wages, reduction of the loss of working time, improvement of product quality, personnel training, increasing of the technical level of production equipment.

In practice, to assess the effectiveness of management systems often use three groups of indicators:

- 1) total effective rates of production and financial activity are the gross product in the dynamics, the output of gross output per worker, capital productivity and profit per employee, profitability, etc.;
- 2) Productivity of administrative work is the production of gross output per worker or management of 1 person-days spent in management, the output of gross production per 1 USD. Management expenses, the amount of income of 1 man-day spent in management, etc.;
- 3) Indicators of economy management are the share of management personnel in total employment and total payroll, the share of management expenses in the product cost more.
- 4) To determine the effectiveness of each structural unit we use data about specific tasks and levels to achieve the goals.

Questions for self-check:

1. The subject, appropriation and main point of “labor management”.
2. What does the peculiarity of manager work consist in?
3. Manager roles according to Mintzberg and their interconnection.
4. What is the manager’s workplace? Describe the equipment necessary for manager’s workplace.
5. Disclose the manager’s workplace main design and organization requirements.
6. Manager and leader description, social roles of manager.
7. Theories of leadership: traits, behavioral theories, contingency approach, synthetic theory.
8. Management styles: describe each of them.
9. What factors influence the selection of management (leadership) style?
10. Management and process of delegation of powers. How does delegation influence the management effectiveness?
11. Peculiarities of management, executive, commercial activities documentation et al. Content and appropriation of main documents.
12. Reasons and conditions for rumors origin in organization. Classification of rumors.
13. Forms of business communication: what is different and what is common for all of them?
14. Planning and manager’s time distribution. The basis of time usage rationalization. Manager’s plans system.
15. Manager’s plans system, their interconnection and development phases.
16. Peculiarities of Seiwert method while days are planning.
17. Pareto principle in manager work.
18. Diurnal rhythm of a human being. Notion of “diagram of working capacity”. Typology of workers in accordance with their diagram of working capacity.
19. Management on the basis of biorhythm.
20. Effect and effectiveness of manager work.

CHAPTER 8. THE BASIC PRINCIPLES OF THE FOREIGN ECONOMIC ACTIVITY

Objective: *learning theoretical foundations of the foreign economic activity (FEA); acquisition of the system knowledge and skills to ensure the economic efficiency of economic activity in various spheres of the economic activity.*

Subject: *combination of commercial, economic, legal and financial relations in the sphere of economic activity of enterprises.*

Content modules: *Foreign trade business market. Regulation of the foreign-economic activity. Form of the enterprises on the foreign markets. Organization of training, the conclusion and implementation of foreign-economic contracts. The structure and content of the foreign-economic contracts. Commodity price, foreign exchange, financial terms of contracts, payment methods. Organization of international transport. Market research of the external market when making export-import operations. An economical efficiency FEA of the enterprise.*

8.1. The foreign-economic activity of the subjects to a market society. Regulation of the foreign economic activity in Ukraine

Ukrainian legislation treats the notion of "the foreign economic activity" as: "Foreign-economic activity is the activity of economic entities of Ukraine and foreign business entities, based on the relationship between them, which can take place in Ukraine and abroad.

The main driving force behind the intensification of foreign economic activity is possible to increase the scope and effectiveness of business due to the internationalization of certain market segments, using new sources of additional financial resources, diversification of production and economic activity.

First principle serves as a commercial enterprise of the FEA calculation on the basis of economic and financial autonomy and self-repayment considering their own monetary, financial and logistical capabilities.

Responsibility for results rests with the foreign enterprises not only in terms of exporting, but also for import purchases of import-export and production of technical reconstruction.

The subjects of foreign economic activity are its members, who are able to work effectively, realizing their business interests. According to the Law of Ukraine "On the Foreign Economic Activity" the subjects of the FEA can be: 1) individual – citizens of Ukraine, foreign citizens and stateless persons, who are capable. Individuals have the right to carry out foreign economic activities if they are registered as businessmen according to the law of Ukraine "About Business". Individuals who do not have permanent residence in Ukraine have the right to conduct foreign trade, if they are subjects under the laws of the state in which they have permanent residence or the citizen of which they are, 2) entities registered in Ukraine and within its territory. Legal persons have the right to carry out foreign economic activities according to their statutes after they obtain legal status, 3) structural units of economic entities of foreign countries (subsidiaries, affiliates, branches, representative offices), the subjects of foreign economic activity of Ukraine who are entitled to open their representative offices in other countries according to their laws and to be members of international non-governmental business organizations. Foreign business entities may establish its representative offices in Ukraine. Registration of foreign missions made by the Ministry of Foreign Economic Relations and Trade of Ukraine during 60 working days of the filing of a foreign business entity documents for registration. In case of registration of foreign representative offices of foreign business entities may appeal the matter in courts of Ukraine, 4) joint venture with a permanent location in Ukraine.

Types of foreign trade, carried out in Ukraine by the Law "On Foreign Economic Activities". They are the following: 1) export and import of goods, i. e. any products, services, labor, intellectual property rights and other intangible rights for sale, as well as capital and labor, 2) provision of international trade Service of Ukraine to foreign economic entities, including manufacturing, freight forwarding, insurance, consulting, marketing, export, brokerage, broker, agent, consignment, management, accounting, auditing, legal and other directly and not exclusively forbidden by the laws of Ukraine, 3) providing the above services foreign economic activity entities of foreign economic activity of Ukraine, 4) academic, scientific and technical, scientific, industrial, manufacturing, training and other cooperation with foreign economic activities, education and training on a commercial basis, 5) international financial transactions and securities transactions in cases stipulated by laws of Ukraine, 6) credit and settlement operations between the subjects of foreign trade and foreign economic activities, creation of international trade, banks, credit and insurance institutions outside Ukraine, the establishment of foreign economic activities of these institutions in Ukraine, in certain cases, 7) joint business activities between business entities, including joint ventures of various kinds and forms of joint business operations and joint ownership of property in Ukraine and abroad; 8) business activity in Ukraine related to the licensing, patents, know-how, trademarks and other intangible properties of foreign subjects and objects of economic activity, similar activities of foreign economic activity outside of Ukraine, 9) organization and activities in the field of exhibitions, auctions, conferences, symposia, seminars and similar activities carried out on a commercial basis, with subjects objects of foreign economic activity, 10) and other types of foreign economic activity not prohibited directly and in an exceptional form of laws of Ukraine.

At the international level it is usually regulated by: 1) identification of investments and investors, environment and encouraging imports of foreign capital, 2) general requirements for business, 3) transfer payments (money), 4) solution of disputes of economic nature, 5) codes of conduct for foreign partners. The main purpose of general business regulation at the international level, which is mainly due concluded bilateral and multilateral agreements, is on one hand to ensure country-based legal protection of their investments against possible non-commercial risks, and on the other - to support the stability and reliability of economic relations between partners. At the supranational level regulation of the FEA are agreements that fix the relationships between many countries.

The classic means of regulation of foreign trade are tariffs, which are related to the nature of the impact of economic regulators.

Custom tariff is a systematic list (summary) of customs duties, which determine the amount of payment for import and export of goods. Custom tariff regulation has two main functions: 1) protectionist (protect domestic products from foreign competition), 2) fiscal (replenishing the state budget), in addition, it can affect the flow of currency, developing regions, especially when it comes to free economic zones and others.

The tariffs include: 1) simple, i.e. have a single rate for a single commodity or commodity group regardless of country of origin, 2) complex when two or more established rates for each product depending on the country of origin.

Rates are divided into the maximum (operating in the countries with which there are no trade agreements), the minimum installed (in the countries which benefit most favored nation) and the preferential (set against the importation of certain goods from certain countries, including those developing).

The main element of the custom tariff is a duty. By its content and influence it also refers to the economic regulators. Duty is a fee or tax that takes the state of commodities, property and other valuables when crossing the border. In Ukraine export, import and transit types of penalties are used. In turn, duties are divided into: 1) on an accrual basis – ad-valorem, specific and mixed, and 2) on the origin – the conventional and independent. You can also select specific types of duties: a special anti-dumping and countervailing duty.

According to the Law of Ukraine "About Single Custom Tariff" some goods are exempt from the imposition of duties, including: vehicles, vehicles carrying international cargo, transportation of Ukraine currency, foreign currency, securities, commodities that are produced in Ukraine and brought back to its territory without processing, and goods of foreign origin that are brought back to Ukraine without processing; goods imported national and international associations of citizens affected by Chernobyl disaster; goods imported by the state currency fund of Ukraine and foreign loans who are under the guarantee of the Cabinet of Ministers of Ukraine and other product lines under the various contracts, agreements and laws of Ukraine.

Non-tariff regulation is a set of measures limited-forbidden manner that prevents penetration of foreign goods in domestic market of the country. Non-tariff barriers are measures of hidden protectionism. According to the specialists in foreign trade are used more than 50 of such events. They can be made through administrative and financial instruments through regulation. There are such main non-tariff measures to regulate foreign economic activities: 1) the prohibition of export and import, 2) quantitative restrictions on export and import (quotas, licensing), 3) "voluntary" export restrictions, 4) anti-dumping measures, 5) technical barriers; 6) activities related to customs clearance, 7) import deposit.

Regulation of business is practically made by the state legislative and executive powers: Verkhovna Rada of Ukraine, Cabinet of Ministers of Ukraine, the National Bank, Ministry of Economy of Ukraine, State Custom Service of Ukraine, Antimonopoly Committee of Ukraine, the Interagency Commission on International Trade, local governments.

The system of currency regulation is a regulation regime for currency transactions, international payments, identify the general principles of currency regulations of state agencies and functions of banks and other financial institutions in the regulation of currency operations, rights and duties of subjects currency relations, the exercise of currency control, responsibility for violation of the currency laws.

The foreign exchange regulation includes: the National Bank of Ukraine, the "authorized bank" (any commercial bank, officially registered in Ukraine, which is licensed by the National Bank of Ukraine on currency transactions, and provides control over monetary transactions of its customers), different credit and financial institutions licensed by the Bank the right to conduct foreign exchange operations, legal entities that have entered into agency agreements to open a currency exchange, credit and financial institutions, non-residents who obtain individual licenses for the right of the Bank operations in the foreign exchange market of Ukraine.

In accordance with the transactions in the interbank currency market of Ukraine (Decree of the National Bank of Ukraine № 127 from 03.18.1999, the transactions in the interbank currency market of Ukraine for only the subjects of this market include: 1) the National Bank of Ukraine (NBU), 2) authorized banks (commercial banks that are licensed to the Bank operations with currency values), 3) authorized financial institutions licensed by the Bank for transactions with currency values.

According to the Decree of the Cabinet of Ministers of Ukraine "About the Currency Regulation and the Currency Control" dated from 02.19.1993 № 15-93, the trade in foreign

currency in Ukraine and non-residents – legal entities – is carried out through authorized banks and financial institutions exclusively in the interbank foreign exchange market of Ukraine. These banks and institutions buy and sell foreign currency on its own behalf and on behalf of the residents and nonresidents. They have the right in its own name and expense to buy foreign currency in cash from individuals – residents and sell it to the residents.

Residents are individuals who have the right to sell foreign currency to the banks and financial institutions or through them – to other individuals-residents.

Residents-individuals are entitled to buy foreign currency at authorized banks and financial institutions or through them – in other individuals – residents.

Exchange controls are a set of administrative measures aimed at curbing export and promote the return of foreign currency into the country.

Exchange control affects the flow of capital to protect the stability of the monetary system and foreign exchange reserves and is one of the essential elements of an economic transition. Exchange control as a tool to stabilize the movement of the capital restricts the volatility of interest and exchange rates.

Currency Control in Ukraine carries out such authorities: 1) The National Bank of Ukraine (NBU), 2) the authorized banks (commercial banks that are licensed to the Bank operations with currency values) 3) the State Tax Administration, 4) the Ministry of communications of Ukraine.

Bodies, which make an exchange control, have the right to request and receive from the residents complete information on their implementation of currency transactions, the status of bank accounts in foreign currency, as well as property to be declared.

The main principles of foreign exchange control are: 1) the monopoly of the banks on the currency transactions, 2) the need to carry out foreign exchange transactions, which must be proved, 3) residents repatriation of the mandatory sale of foreign exchange earnings, 4) the mandatory declaration of the foreign holdings, i.e. assets (cash, checks, bills, letters of credit) that make payments and liabilities, 5) prohibition on the export and import of means of payment, 6) isolation of the domestic market from foreign currency (to residents are prohibited to provide and take loans in local currency from non-residents), 7) prohibition of compensation and arbitration operations, 8) the control over the game in terms of the currency market, 9) the control over the foreign currency position (change of the ratio requirements and obligations under the contract partners in foreign currency) of the commercial banks.

The violations are: operations with currency values without obtaining general or individual license of the NBU; trade foreign exchange banks and other financial institutions without obtaining license from the NBU and (or) in violation of the terms of trade and monetary values on the interbank currency by the NBU; non authorized banks in their respective duties, violation of residents of the settlements; late submission, concealment or misrepresentation of reporting foreign exchange transactions, non resident declaration requirements of currency values and other assets. The amounts levied fines are directed to the State Budget of Ukraine.

8.2. The forms of enterprise on the foreign markets. The market research of the foreign market on the foreign export-import transactions

When entering to a foreign market venture gets tough international competition. In these conditions one can operate successfully only by applying modern management techniques, including marketing.

For effective management of the foreign-economic activity at the enterprise level one needs a governance structure and adequate work conditions. The organizational structure of foreign trade

activities of enterprise is determined primarily by those goals and objectives that it intended to solve.

On the industrial enterprise that are actively involved in foreign trade activities, foreign aid are mainly in two forms: 1) as a part of the internal economic structure in the form of external and 2) as a foreign trade company.

An export-trading firm is relatively an independent department, created a rather large enterprise to organize and control its foreign trade activities. This "company" is headed by a director, who is subordinate directly to the CEO of the enterprise. In general, the organizational structure of the foreign trade companies is on the Fig. 8.1.

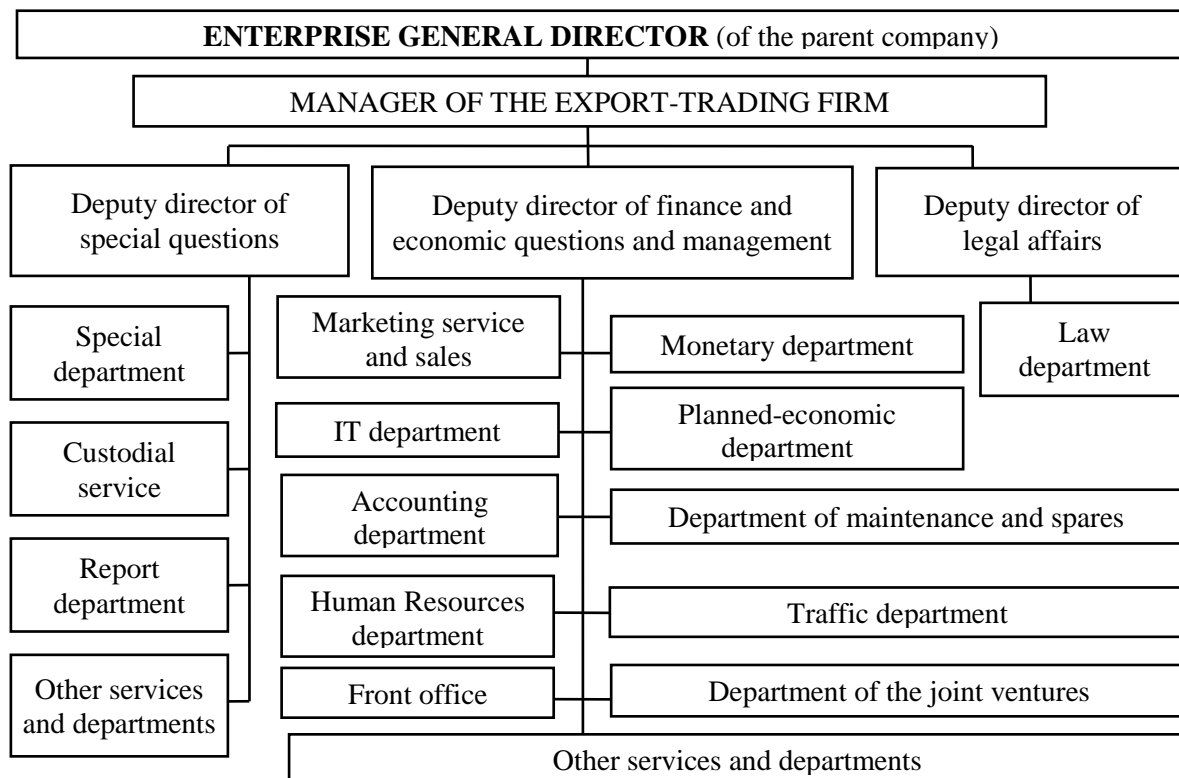


Figure 8.1 – General structure of the export-trading firm

Another, the most common, form of external service in the enterprise is the department of foreign economic relations (DFER). This department is subordinate or direct to the General Director, Director of Commercial Affairs, or Director of Finance and Economic Affairs. The general structure of such a department can be represented in the Fig. 8.2.

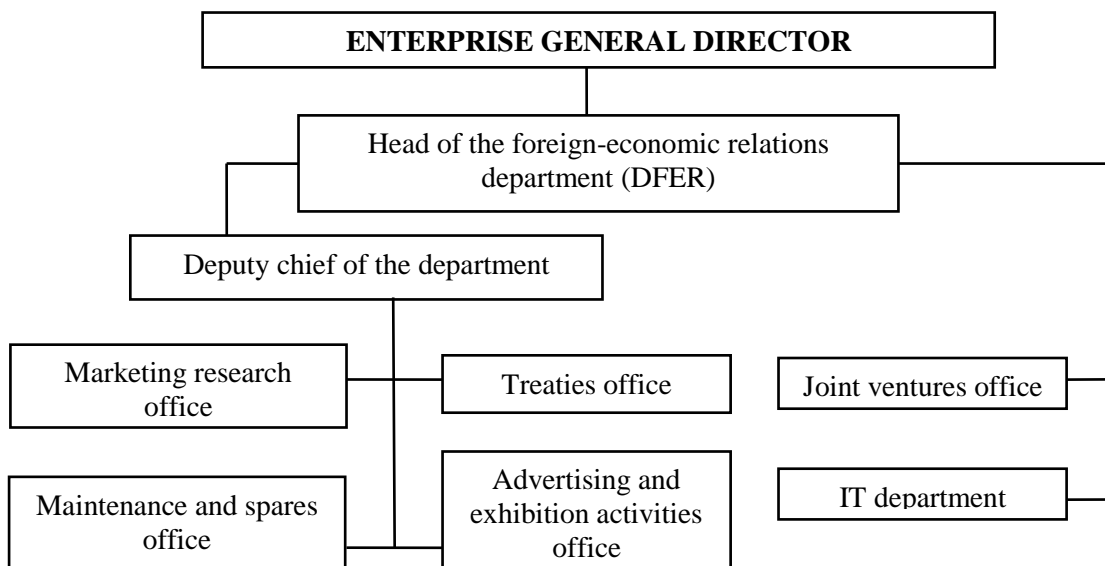


Figure 8.2 – General structure of the foreign-economic relations department

The head of the DFER serves as a guide and coordinates the activities of all the divisions of the department organizes and controls the work of the FEA enterprise.

The deputy chief of the DFER organizes effective marketing of the made products, the implementation plans of the made products on the foreign markets.

Market Research Office provides the supply, demand, price dynamics, market structure, coordination of firms with foreign agents, methodological guidance and control of the correct calculation and application of prices in the preparation and signing of contracts, carries out research work with other foreign markets, studies the existing of the global market technical requirements for products and information about these direct producers of goods, analysis of technical level and product quality, its competitiveness, leadership issues relevant conclusions and recommendations on these issues;

Advertising and exhibition activities office provides an advertising of the firm, organizes the participation of specialized companies in international fairs;

Joint ventures office coordinates, plans and controls joint ventures established with foreign capital in Ukraine and abroad;

IT department is working on automating calculations, implementation of economic-mathematical methods and computers in the practice of associations and firms, creation, together with other departments and companies, databases and managing them;

Treaties office is studying potential customers of the plant, signs agreements to issue products.

Maintenance and spares office provides guarantee and post-warranty service of the products exported by the overseas countries, technical centers and agents of foreign companies necessary spare parts, repair equipment and transport.

The functions of the foreign service businesses are: 1) scientific and technical cooperation and external relations: the development plan; organization negotiations; necessary measures for scientific and technical cooperation with other firms, research and implement best practices, collecting and accumulating necessary information; selection of the professionals to the business trip abroad for planning and controlling the export of the production, accumulation of information for statistical reporting), 2) protocol (protocol organization activities related to receiving delegations, consultations with foreign experts, etc.; documents for all coming to the enterprise professionals for market expansion of production and exchange of experience, providing translators in international organizations, delegations and negotiations, translation of catalogs, booklets, technical documentation), 3) analytical studies (making sales forecasts and pricing policy development: analysis of the characteristics products, in terms of market requirements, study and analysis of market sales, development, compiling sales forecasts, the possible range of goods for sale on the market and the development of the planned turnover of the enterprise and new forms of service, creating a database for marketing analysis, study factors that affect the speed of implementation of the product on the market, and choosing the optimal approach to pricing in the implementation of enterprise analysis of market prices), 4) promotional activities (development of measures to stimulate demand of enterprise, analyzing measures to advertise products) 5) development of the plans and preparing for signing contracts for the sale of products (the negotiation and preparation for signing contracts, contracts and contract work with the exchanges, brokers, dealers and sales agents in the search for consumers based on published forecasts sales, maintaining catalogues accounting for consumers, negotiating with potential customers, accounting for sales regions).

Department of Foreign Economic Relations is a part of the management structure; its effective operation depends on the proper relationship with other divisions of the enterprise that somehow involved in the FEA enterprise. All functional departments and services involved in managing economic activity could be divided into two main groups: 1) Group departments and services enterprise which are planning FEA (Planning and Economic Department – Planning and control of foreign trade activities of the plan, economic activity enterprise; monetary-financial – currency planning and control of currency, credit and settlement operations, the interests of firms in foreign trade operations, transport department – planning and transportation of export and import cargoes, accounting – accounting and reporting, accounts with banks suppliers and third-party organizations, calculation and payment of wages, the analysis (along with the planning department) the financial performance of the company on foreign markets and recommendations for its improvement), 2) Group of the companies that provide adoption and implementation of management decisions in the field of Foreign Trade (Development Department – Improvement of the organizational structure of the enterprise; personnel department – the selection, placement and workforce development, maintaining personnel files of employees, department of foreign travel – registration trips abroad office – registration and control organizational documentation and correspondence, administrative office supplies needed for materials and equipment company, responsible for the operation of buildings, other economic work, Legal – assistance in drafting of contracts and agreements, advice on presentation of claims and protect the interests of enterprise in the courts, legal support of the company; ceremonial office executes the orders leadership of the organization of meetings and receptions representatives of foreign firms that came on business trips.

The drafting and implementation of foreign trade operations members resorted to a detailed study as a potential range of possible contractors and concrete companies and organizations with which it is possible to sign contracts. Learning activities are common element of the contractor carrying out foreign trade operations; he paid attention to all participants of international trade. In the rapidly changing global situation and the presence of sudden, unexpected changes to its choice of foreign partner company, especially in operations for a long term approach very carefully.

Program complex marketing research in the FEA will vary from commodity nature of business, scale of production of export goods and other factors. You can highlight the following main sections marketing research for foreign economic activity (Fig. 8.3).

Any market research on foreign market aims to assess its competitiveness at work on a specific market.

When producer competitiveness meant its ability to maintain efficient production and marketing activities and thereby resist competitors. The criterion of effectiveness of these activities can serve as profit or other commercial rates.

At the level of competitiveness should be understood commodity index, which gives the characteristics of its ability to confront competitors in specific markets in the period under review. You can define performance criteria for comparing the production and sales activities of competitors and the manufacturer.

Competitiveness of products is its property, and the level of competitiveness - an indicator of this property, which gives the characteristics of the ability of products to meet specific market requirements in the period under review compared to competitors' products.

Competitiveness measured by the aggregate of basic feasibility, quality and cost parameters that distinguish the market for goods of a competitor product (analogue) as to precisely match the needs identified, and on consumer spending at their pleasure.

Competitiveness of products (services) depends on the several factors that influence the preference of goods and determine the extent of their implementation in the given market. These factors can be considered as components (parts) of competitiveness and divided into three groups: technical, economic, commercial, legal and regulatory factors.

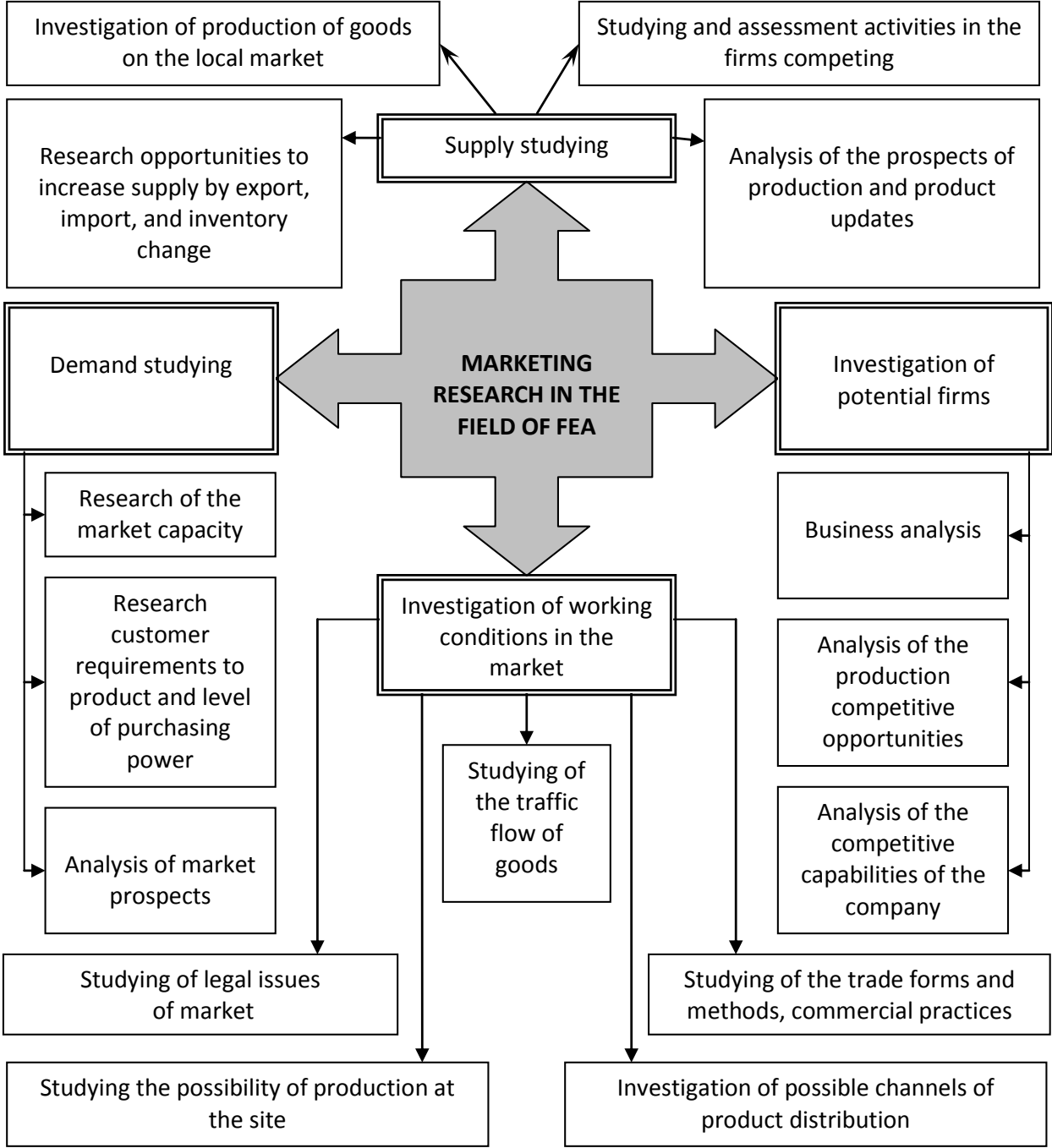


Figure 8.3 –The structure of marketing research in the field of foreign economic activity

Evaluation of the competitiveness of goods intended for export, includes the following steps: 1) market analysis and selection of the most sample product (or a few samples of goods) as a basis for comparison, 2) determine a set of compatible parameters, and 3) calculation of the integral index of competitiveness of goods.

As a sample product is taken, usually a product available in the market and one that is in a demand among the consumers.

In determining the set of parameters are comparable with that of the parameters characterizing the properties of consumer goods (the consumer price), and the other part – its economic characteristics (cost). Until consumer properties are primarily options, parameters that describe the main features of a product (e.g., power, performance, speed, size, accuracy, etc.). It is important to consider the requirements of the standards (national and international), laws, regulations, etc., which impose specific requirements on the goods or any other market. Along with parameters that describe the main quantitative and qualitative characteristics, it is important to analyze the so-called "soft" parameters characterizing the appearance of a product (design, color, etc.), its packaging, trademark and others. Modern market largely filled various goods, in which "hard" parameters (parameters describing the basic functions) differ slightly. In these conditions the importance of "soft" options is growing.

After analyzing the product on consumer preferences and establishing the fact of compliance with consumer and regulations governing access to a particular product market, there is an analysis of the economic goods (costly) options.

Size is determined by economic parameters: product price C_1 , the cost of its transportation C_2 , installation C_3 , staff training C_4 , operating costs C_5 , the cost of repair C_6 , maintenance costs C_7 , taxes C_8 , insurance contributions C_9 , etc. The sum of all these costs will determine the price of consumption, i.e., all costs for the duration of customer service:

$$C = C_1 + C_2 + C_3 + C_4 + C_5 + C_6 + C_7 + C_8 + C_9 + \dots \quad (8.1)$$

where C_1 – product price; C_2 – the cost of transporting goods; C_3 – the cost of installation (mounting) of goods; C_4 – the cost of staff training; C_5 – operating costs; C_6 – the cost of repair; C_7 – maintenance costs; C_8 – taxes; C_9 – insurance contributions.

The number of the components of consumption and prices of their numerical values will be determined individually. Consumer Price – one of the key indicators of competitiveness (particularly for machine-technical products), because operating costs for the entire period of operation surpass the one-time costs associated with acquiring goods, such as a car - five or six times, passenger aircraft - seven or eight times for diesel generator – four or five times, etc.

To calculate the integral index of competitiveness of goods for export, it is parameters are compared with existing options or the product being developed and most fully reflects the needs of customers. The comparison is based on ball marks. For a more accurate assessment of comparable goods may involve a group of experts – specialists in data products. The result of this phase is Table 8.1.

Assessment of degree of satisfaction with the offered goods customers' needs by conducting a consolidated (total) index parameter that can be calculated by the formula:

$$I_T = \sum_{i=1}^n a_i \cdot I_i \quad (8.2)$$

where a_i – the share of the i-th parameter index that reflects the degree of importance of this option for the buyer; I_i – parametric index value i-th parameter, n – number of parameters comparable product.

It should be noted that the value of I_i , and therefore I_T should not exceed one, because it makes no sense to offer products that satisfy the needs of more than 100%.

Similarly, the composite index of competitiveness calculated by the economic requirements I_E :

$$I_E = \sum_{j=1}^m b_j \cdot I_j \quad (8.3)$$

where b_j – the share of the j -th economic index, which reflects the degree of importance of this option for the buyer; I_j – the index of the j -th economic parameter; m – number of estimated economic parameters of the product.

Calculation of composite index on consumer and economic parameters allows to calculate the indicator of relative competitiveness of our product K for technical and economic parameters in comparison with the product, selected as a sample:

$$K_T = \frac{I_{T1}}{I_{T2}}, \quad (8.4)$$

$$K_E = \frac{I_{E1}}{I_{E2}}, \quad (8.5)$$

where K_T – the index of competitiveness for technical parameters, K_E – an indicator of competitiveness for economic parameters, I_{T1} , I_{T2} – indexes of the competitiveness for the technical parameters of these goods and goods-standard respectively, I_{E1} , I_{E2} – indexes of the competitiveness for economic parameters of these goods and goods under standard.

Then the calculation of integral index of the competitiveness of the product by the formula:

$$J = \frac{K_T}{K_E} \quad (8.6)$$

If $J > 1$, the analyzed product (goods) to superior competitive model, if $J = 1$ – located on the same level, if $J < 1$ – it concedes.

Thus, to improve the competitiveness can be integral index, increasing the K_T and/or reducing the K_E . Obtained in this way integrated assessment allows you to specify which product is best, which ranks second, etc. However, this method is quite time consuming and requires a pair of the product studies, not allowing their simultaneous comparison.

In our opinion, the most successful graphic interpretation of the evaluation of the competitive product in the foreign market is the mission profile in polar coordinates. The first stage of research is to identify manufacturers of competitors and study their activities. More defined set of comparative parameters (as "solid" and "soft") that characterize the properties of consumer goods (parameters describing the basic functions of the product with the requirements of international and national standards and others regulations. The next step is a conducted study of the competing products to determine the comparative values of the parameters. Each parameter is assigned a weight that reflects the value of the parameter for the consumer, with weight proportional to the angle between adjacent radii vectors (angle φ_i) – the angle between the parameters (i) and (i-1), with:

$$\sum_{i=1}^m \varphi_i = 360^\circ \quad (8.7)$$

where φ_i – the angle between the vectors of parameters (i-1) and i; i – the number option; m – the number of investigated parameters.

$$\varphi_i = 360 \times a_i \quad (8.8)$$

$$\sum_{i=1}^m a_i = 1 \quad (8.9)$$

where a_i - proportion (weight ratio) of the i -th parameter .

The data recorded in Table 8.1 – Comparative analysis of main competitors.

Then the researcher begins construction of the mission profile in the polar coordinates. At the radius vector, whose length is compressed into a unit delayed relative value index of competitiveness calculated by the formula R_i 8.10, if the value is more it is better or the formula 8.11, is the best if the value is less.

$$R_i = \frac{P_{ij}}{P_i^{ET}}, \quad (8.10)$$

$$R_i = \frac{P_i^{ET}}{P_{ij}}, \quad (8.11)$$

where j – the number of the product-competitor;

$i(\overline{1;m})$ - the number of parameter estimates;

m - number of parameters;

P_{ij} and P_i^{ET} – the value of the i -th parameter j and product-standard products, respectively.

Thus, comparing the level of competitiveness of competing products illustrates the difference of areas of polygons (Tab. 8.1 and Fig. 8.4). This approach is legitimate for any number of compatible products and measurements and can't only find the best product (the best is the product of which is estimated the mission profile larger area), but also analyze, from which parameters will win or concede a specific product and how significant these parameters.

Table 8.1

Comparative analysis of the main competitors

Options assessment	weight	Name of the competing manufacturers							
		Producer 1		Producer 2		...		Producer n	
		imp.	grade	imp.	grade	imp.	grade		grade
Parameter 1									
Parameter 2									
...									
Parameter m									

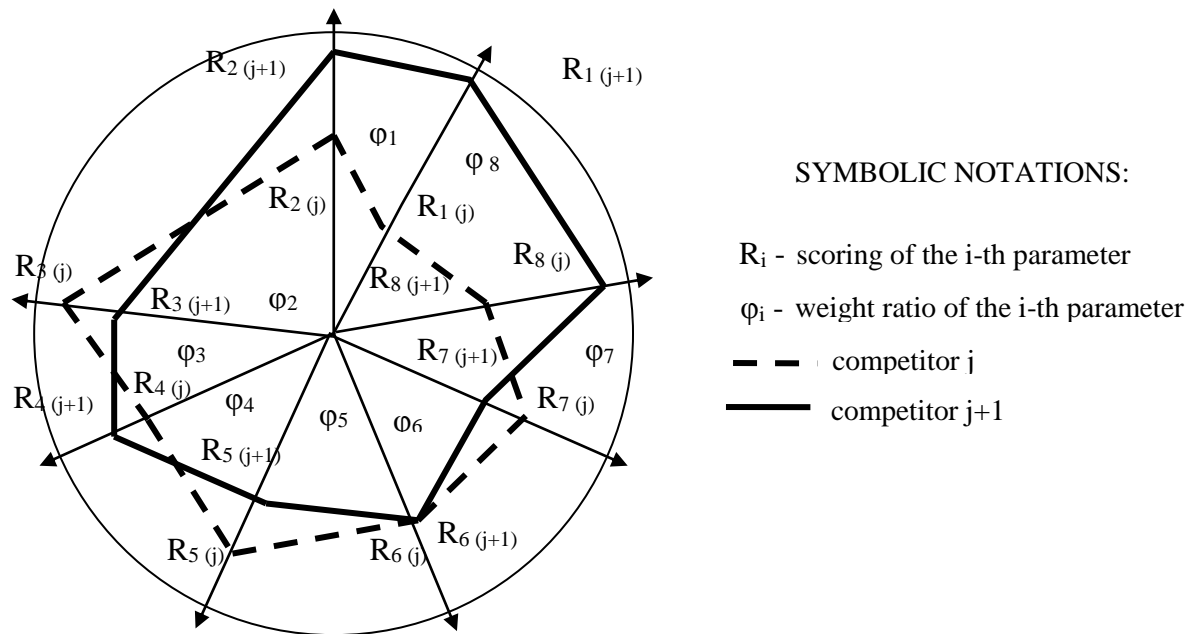


Figure 8.4 – Mission profiles for the comparative evaluation of the competing products

8.3. Organization and preparation technique, execution and implementation of the foreign economic agreements. The structure and content of the international sales-purchase agreements

Foreign economic agreement (contract) is an agreement between two or more foreign economic entities and their foreign counterparts, aimed at the establishment, modification or termination of reciprocal rights and obligations in the foreign economic activity.

Matter of form, order execution and implementation of trade agreements governing such regulations: Civil Code of Ukraine, the Law "About foreign economic activity, on the order of payment in foreign currency, on tolling operations in foreign relations", "About the regulation of commodity exchange (barter) transactions in foreign trade activities", the President of Ukraine Decree № 556/94 of 4 October 1994 "About measures to streamline the settlement of that stack entrepreneurs of Ukraine", President of Ukraine Decree № 567 / 94 dated October 4, 1994 "About the international rules of interpretation of commercial terms," President of Ukraine Decree № 124/96 of 10 February 1996 "About measures to improve conjuncture and price policy in foreign economic activities," Decree of the Cabinet Ministers of Ukraine № 15-93 of 19 February 1993 "About Currency Regulation and Currency Control", Cabinet of Ministers of Ukraine and National Bank of Ukraine № 444 (444-95-p) of 21 June 1995 "About the typical payment terms foreign economic agreements (contracts) and the typical forms of safeguard clause to foreign economic agreements (contracts) that provide for payments in foreign currency.

Foreign economic agreement concluded in a simple writing. Credentials of representatives to the contract follow from the power of attorney statutes. Actions undertaken on behalf of a foreign business entity authorized the FEA, the FEA in Ukraine, considered as acts of a foreign entity.

The rights and obligations for foreign economic agreements (contracts) law of the country chosen by the parties during the contract, or through further elaboration. In the absence of such agreement the law of the country, where established, has his residence or principal place of business side, which are: 1) the seller – in the sales contract and 2) the lessor – the lease agreements; 3) the

licensor – the license agreement; 4) The consignor (consignee) – the contract commission (Consignment), 5) the principal – in the contract order, 6) the carrier – in the contract of carriage; 7) forwarder – the contract of freight forwarding services, 8) the insured – the insurance contract, 9) lender – lending agreement in others. In most cases, national laws require only a written agreement form. The process of making foreign trade agreement (contract) purchase and sale involves the following steps: 1) preparing a contract (contract); 2) the conclusion of foreign trade agreement (contract); 3) execution of the foreign economic agreement (contract).

For contract requires the consent of the parties on all essential terms, i.e.: terms without which it has no legal force. The contract is considered concluded if the parties in due form, agreed on all material terms (Tab. 8.2).

Table 8.2

The list of significant contract (agreement)

Section title	Section description
<i>1</i>	<i>2</i>
Name	Name, number of the agreement (contract), date and place of its conclusion
Preamble	The preamble states the full names of the parties participating foreign operations, which they are officially registered, indicating the country as a brief definition of the contracting parties (Seller, Buyer, Customer, Vendor, etc.), the person on whose behalf concluded foreign economic agreement (contract), and title documents, which are used by the contractors at the conclusion of the agreement (contract) (constituent documents, etc.).

Table 8.2 (continued)

1	2
Agreement (contract) subject	This section determines which goods (and services) in one of the contractors must put (make) the other stating the actual names, marks, grade or the final result of work performed. In the case of barter contract or contract for processing of raw materials is also defined by the specific name (brand, variety) counter deliveries (or product name that is the ultimate goal of processing raw materials). If the goods (works, services) need more features or the range of goods (and services) is large enough, everything stated in the annex (bill), which should be an integral part of the agreement (contract), that should be a corresponding note in the text of the agreement (contract). For barter (exchange of goods) agreement (contract) of the application (specification), in addition, yet balanced with a total value of exports and imports of goods (and services). The annex to the agreement (contract) on the processing of raw materials indicate corresponding technological scheme of such processing. The flowsheet of the processing raw materials should reflect: 1) all the main stages of processing raw materials and the process of converting raw materials to finished products, 2) quantitative indicators at each stage of the processing with the explanation of the technological losses of raw materials, 3) loss of artist products at every stage.
Quantity and quality of the product (volume of works, services)	This section determines, based on the nomenclature, unit of the product acceptable for this type of goods (in tones, kilograms, pieces etc.), its total quantity and quality characteristics. The text of the agreement (contract) of work (services) sets out the specific scope of work (services) and their implementation.
Basic terms of goods (acceptance and letting the works or services)	In this section indicate the type of transport and basic conditions of supply (in accordance with international rules of interpretation of commercial terms that define the responsibilities of contractors for deliveries and set the passing of the risk from one party to another, as well as a specific term deliveries (individual shipments .) In the case of contract (contract) of work (services) in this section shall specify the terms and timing of the works (services). Characteristics of delivery of basic conditions listed in the Table 8.3.
Price and the total cost of the agreement (contract)	This section defines the price of the product units and the total value of goods or the value of the works (services) that are supplied under the agreement (contract), unless the price is calculated using the formula, and currency of the contract. If under the agreement (contract) delivered the goods of varying quality and range, the price is set individually for each product class, brand, and a separate paragraph of the agreement (contract) says its total cost. In this case, the price indices may be specified in the annexes (specifications), referred to in the text of the agreement (contract). When calculating the cost of the agreement (contract) by the formula indicated the estimated cost of the agreement (contract) on the date of its conclusion. The agreement (contract) on the processing of raw materials also indicated its mortgage cost, price and total value of the made products, the total cost of processing. In barter (exchange of goods) agreement (contract) says the total value of goods (and services) exported and the total value of goods (works, services) imported under this agreement (contract) with the obligatory expression of foreign currency classified by the National Bank of Ukraine to the first group of the Classifier of the foreign currencies.
Payment terms	This section defines the currency of payment, method, procedure and terms of financial arrangements and guarantees for the parties reciprocal payment obligations. Depending on the choices of conditions of payment specified in the text of the agreement: 1) the conditions to bank transfer (advance payment) and / or after the shipment or the conditions of a documentary credit or collection (with warranty), 2) the terms of the guarantee if it is or when need it (kind of guarantees: on demand, conditional), conditions and terms of the guarantee, the possibility of change without changing the terms of the contract guarantees.
Conditions of acceptance and donation of the goods	Determined date and place of transfer of the goods listed in the accompanying documents. Acceptance of donation is made in accordance with shipping documents for quality – according to the documents that certify the quality of goods

Table 8.2 (continued)

<i>1</i>	<i>2</i>
Packaging and labelling	This section contains information on the product packaging (boxes, bags, containers, etc.) printed on it by marking (name of seller and buyer, contract number, destination, size, special conditions for storage and transportation, etc.) as well as the conditions necessary for its return.
Force majeure conditions	This section contains information about cases in which contract terms can not be executed by the parties (natural disasters, war, embargo by the authorities, etc.). The parties are exempted from obligations for the duration of these circumstances or may refuse to perform the contract in part or in whole without additional financial responsibility. The period of force majeure confirmed Chamber of Commerce of the country.
Sanctions and reclamations	This section establishes the procedure for applying penalties (as a percentage of the value underdelivered goods (and services) or the amount of unpaid costs, terms of payment of fines - from which date they are established and operate within what time, or ceiling), periods during which claims can be declared, the rights and obligations of the parties to the agreement (contract) at the same time, ways of settlement the claims.
Arbitration	In this section, the conditions and procedure for resolving disputes in the court on the interpretation, failure and / or improper performance of the contract with indication of the name of a court or a court determination of clear criteria for any of the parties depending on the subject and nature of the dispute and the parties agreed upon the choice of material and procedural law to be applied by this court, and rules of the procedure of the court settlement.
Location, email and billing of the subjects	This section notes the location (residence), full postal and billing information (№ account name and address of the bank), agreement (contract).

When failing a partner material conditions other party may recover damages. The Incoterms 2010 rules are standard sets of trading terms and conditions designed to assist traders when goods are sold and transported (Tab. 8.3).

Table 8.3*

Basic terms of the goods delivery

Group name	Basic terms content
<i>1</i>	<i>2</i>
	Rules for any transport mode
EXW Ex-works (named place of delivery)	The seller makes the goods available at their premises. This term places the maximum obligation on the buyer and minimum obligations on the seller. The Ex Works term is often used when making an initial quotation for the sale of goods without any costs included. EXW means that a buyer incurs the risks for bringing the goods to their final destination. Either the seller does not load the goods on collecting vehicles and does not clear them for export, or if the seller does load the goods, he does so at buyer's risk and cost. If parties wish seller to be responsible for the loading of the goods on departure and to bear the risk and all costs of such loading, this must be made clear by adding explicit wording to this effect in the contract of sale. The buyer arranges the pickup of the freight from the supplier's designated ship site, owns the in-transit freight, and is responsible for clearing the goods through Customs. The buyer is also responsible for completing all the export documentation. These documentary requirements may cause two principal issues. Firstly, the stipulation for the buyer to complete the export declaration can be an issue in certain jurisdictions (not least the EU) where the customs regulations require the declarant to be either an individual or corporation resident within the jurisdiction. Secondly, most jurisdictions require companies to provide proof of export for tax purposes. In an Ex Works shipment, the buyer is under no obligation to provide such proof, or indeed to even export the goods. It is therefore of utmost importance that these matters are discussed with the buyer before the contract is agreed. It may well be that another Incoterm, such

as FCA seller's premises, may be more suitable.

Table 8.3 (continued)

1	2
<p>FCA Free carrier (named place of delivery)</p>	<p>The seller delivers the goods, cleared for export, at a named place. This can be to a carrier nominated by the buyer, or to another party nominated by the buyer.</p> <p>It should be noted that the chosen place of delivery has an impact on the obligations of loading and unloading the goods at that place. If delivery occurs at the seller's premises, the seller is responsible for loading the goods on to the buyer's carrier. However, if delivery occurs at any other place, the seller is deemed to have delivered the goods once their transport has arrived at the named place; the buyer is responsible for both unloading the goods and loading them onto their own carrier.</p>
<p>CPT Carriage paid to (named place of destination)</p>	<p>CPT replaces the venerable C&F (cost and freight) and CFR terms for all shipping modes outside of non-containerised seafreight. The seller pays for the carriage of the goods up to the named place of destination. Risk transfers to buyer upon handing goods over to the first carrier at the place of shipment in the country of Export. The seller is responsible for origin costs including export clearance and freight costs for carriage to named place of destination (either final destination such as buyer's facilities or port of destination has to be agreed by seller and buyer, however, named place of destination is generally picked due to cost impacts). If the buyer does require the seller to obtain insurance, the Incoterm CIP should be considered.</p>
<p>CIP Carriage and insurance paid to (named place of destination)</p>	<p>This term is broadly similar to the above CPT term, with the exception that the seller is required to obtain insurance for the goods while in transit. CIP requires the seller to insure the goods for 110% of their value under at least the minimum cover of the Institute Cargo Clauses of the Institute of London Underwriters (which would be Institute Cargo Clauses (C)), or any similar set of clauses. The policy should be in the same currency as the contract. CIP can be used for all modes of transport, whereas the equivalent term CIF can only be used for non-containerised seafreight.</p>
<p>DAT Delivered at Terminal (named terminal at port or place of destination)</p>	<p>This term means that the seller covers all the costs of transport (export fees, carriage, unloading from main carrier at destination port and destination port charges) and assumes all risk until destination port or terminal. The terminal can be a Port, Airport, or inland freight interchange. Import duty/taxes/customs costs are to be borne by Buyer.</p>
<p>DAP Delivered at Place (named place of destination)</p>	<p>This term means that the seller delivers when the goods are placed at the disposal of the buyer on the arriving means of transport ready for unloading at the named place of destination. Under DAP terms, the risks passes from seller to buyer from the point of destination mentioned in the contract of delivery by seller.</p> <p>Once goods are ready for shipment, the necessary packing is done by seller at his own cost, so as to reach the material up to final destination safely. The materials are moved to customs location opted by seller at exporting country at his own expenses under DAP. All necessary legal formalities in exporting country is completed by seller at his own costs and risks to move the goods to destination mentioned in DAP. Apart from necessary customs clearance procedures and formalities at exporting country, the insurance up to the destination mentioned in DAP terms is arranged by seller at his own costs and risks. In a DAP terms, necessary carriage expenses with any terminal expenses are paid by seller up to the destination mentioned. The necessary unloading cost at final destination has to be borne by seller under DAP terms, if specifically not mentioned in contract. If unloading expenses can not be met by seller, better terms of shipping can be DAT (Delivered at Terminal of place mentioned)</p> <p>Once after arrival of goods at destination mentioned in DAP terms, the customs clearance at importing country needs to be completed by the buyer at his own cost and risk. Transportation from the point of destination mentioned in DAP terms to final destination of buyer, need to be undertaken by seller at his own cost and risks. Under DAP terms of shipping, the seller meets all expenses and risks to deliver the goods up to the destination mentioned in the contract. From such point of location mentioned in</p>

	DAP terms, the buyer undertakes all risks and responsibilities to reach the goods at his premises at his own expenses.
--	--

Table 8.3 (continued)

<i>1</i>	<i>2</i>
DDP Delivered Duty Paid (named place of destination)	Seller is responsible for delivering the goods to the named place in the country of the buyer, and pays all costs in bringing the goods to the destination including import duties and taxes. The seller is not responsible for unloading. This term is often used in place of the non-Incoterms "Free In Store (FIS)". This term places the maximum obligations on the seller and minimum obligations on the buyer. With the delivery at the named place of destination all the risks and responsibilities are transferred to the buyer and it is considered that the seller has completed his obligations.
	Rules for sea & inland waterway transport
FAS Free Alongside Ship (named port of shipment)	The seller delivers when the goods are placed alongside the buyer's vessel at the named port of shipment. This means that the buyer has to bear all costs and risks of loss of or damage to the goods from that moment. The FAS term requires the seller to clear the goods for export, which is a reversal from previous Incoterms versions that required the buyer to arrange for export clearance. However, if the parties wish the buyer to clear the goods for export, this should be made clear by adding explicit wording to this effect in the contract of sale. This term can be used only for sea or inland waterway transport
FOB Free on Board (named port of shipment)	Officially it relates only to sea freight, but in China it is very often used in relation to air freight or air courier shipments. It means that the supplier bears all costs to the point where the goods are loaded on board the carrier's transport. The seller must also arrange for export clearance. The buyer pays cost of marine freight transportation, bill of lading fees, insurance, unloading and transportation cost from the arrival port to destination. Risk passes from the seller to the buyer when the goods are loaded aboard the vessel.
CFR Cost and Freight (named port of destination)	The seller pays for the carriage of the goods up to the named port of destination. Risk transfers to buyer when the goods have been loaded on board the ship in the country of Export. The Shipper is responsible for origin costs including export clearance and freight costs for carriage to named port. The shipper is not responsible for delivery to the final destination from the port (generally the buyer's facilities), or for buying insurance. If the buyer does require the seller to obtain insurance, the Incoterm CIF should be considered. CFR should only be used for non-containerized seafreight; for all other modes of transport it should be replaced with CPT.
CIF Cost, Insurance & Freight (named port of destination)	This term is broadly similar to the above CFR term, with the exception that the seller is required to obtain insurance for the goods while in transit to the named port of destination. CIF requires the seller to insure the goods for 110% of their value under at least the minimum cover of the Institute Cargo Clauses of the Institute of London Underwriters (which would be Institute Cargo Clauses (C)), or any similar set of clauses. The policy should be in the same currency as the contract. CIF can be used by any transport by sea and air not limited to containerized or non-containerized cargo and includes all charges up to the port/terminal of entrance. CIF covers additional charges at the port/terminal of entrance.

* Made using information: <http://www.incotermsexplained.com/the-incoterms-rules/the-eleven-rules-in-brief/delivered-duty-paid/>

The contract concluded by the parties can determine minor (additional) conditions. When one of the parties violates the contract, the other party has no right to reject goods and terminate the contract, but can only enforce liabilities and damages. Additional conditions include: insurance, quality assurance, contract terms involving sub-executor, agents, carriers, defining loading (unloading) standards, submission of technical documentation for product storage brands, order

payment of taxes, customs duties, various protective clauses, date on which the agreement (contract) comes into effect, the number of signed copies of the agreement (contract), the possibility and procedure for amending the agreement (contract) and other.

8.4. Prices, fiscal and financial terms of contracts, payment terms, payment methods

Contract price is the number of currency units, which the buyer must pay the seller in a particular currency for the entire product or unit that has been delivered by the seller to the geographical point specified in the contract. Methods of export price calculating are given in Tab. 8.4 according to Incoterms 2010.

Table 8.4

Calculation of export price

Title	Base price structure
1	2
Price EXW	<p>The buyer bears all costs and risks involved in taking goods from the seller's premises to their intended destination. The buyer gets goods ready to dispatch in stock firm-seller.</p> <p>Allocations of costs to buyer: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Insurance + Unloading in port of import + Loading on truck in port of import + Carriage to place of destination + Import customs clearance + Import taxes.</p> <p>Allocations of costs to seller: 0.</p>
Price FCA	<p>Allocations of costs to buyer: Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Insurance + Unloading in port of import + Loading on truck in port of import + Carriage to place of destination + Import customs clearance + Import taxes.</p> <p>Allocations of costs to seller: Export customs declaration + Carriage to port of export</p>
Price FAS	<p>Allocations of costs to buyer: Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Insurance + Unloading in port of import + Loading on truck in port of import + Carriage to place of destination + Import customs clearance + Import taxes.</p> <p>Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export.</p>
Price FOB	<p>Allocations of costs to buyer: Carriage (Sea/Air) to port of import + Insurance + Unloading in port of import + Loading on truck in port of import + Carriage to place of destination + Import customs clearance + Import taxes.</p> <p>Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export.</p>
Price CPT	<p>Allocations of costs to buyer: Insurance + Loading on truck in port of import (or seller) + Import customs clearance + Import taxes.</p> <p>Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Unloading in port of import + Loading on truck in port of import (or buyer) + Carriage to place of destination.</p>
Price CFR	<p>Allocations of costs to buyer: Insurance + Unloading in port of import (or seller) + Loading on truck in port of import + Carriage to place of destination + Import customs clearance + Import taxes.</p> <p>Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Unloading in port of import (or buyer).</p>

Table 8.4 (continued)

1	2
Price CIF	Allocations of costs to buyer: Unloading in port of import (or seller) + Loading on truck in port of import (or buyer) + Carriage to place of destination + Import customs clearance + Import taxes. Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Insurance + Unloading in port of import (or buyer).
Price CIP	Allocations of costs to buyer: Loading on truck in port of import (or seller) + Import customs clearance + Import taxes. Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Insurance + Unloading in port of import + Loading on truck in port of import (or buyer) + Carriage to place of destination.
Price DAT	Allocations of costs to buyer: Insurance (or seller) + Loading on truck in port of import + Carriage to place of destination + Import customs clearance + Import taxes. Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Insurance (or buyer) + Unloading in port of import.
Price DAP	Allocations of costs to buyer: Insurance (or seller) + Import customs clearance + Import taxes. Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Insurance (or buyer) + Unloading in port of import (or buyer) + Loading on truck in port of import + Carriage to place of destination.
Price DDP	Allocations of costs to buyer: Insurance (or seller). Allocations of costs to seller: Export customs declaration + Carriage to port of export + Unloading of truck in port of export + Loading on vessel/airplane in port of export + Carriage (Sea/Air) to port of import + Insurance (or buyer) + Unloading in port of import + Loading on truck in port of import + Carriage to place of destination + Import customs clearance + Import taxes.

Contract prices in the foreign economic activity (FEA) sphere are to be determined by the subjects on a contractual basis, taking into account supply and demand and other factors that act in relevant markets during the conclusion of foreign trade agreements. In some cases, contract prices for certain goods are being determined according to indicative prices. In such cases contract price should be lower than the indicative.

Indicative prices are the prices for the goods that have been established or being established for a corresponding product on export or import market at the time of export (import) operation dealing with the delivery terms and conditions for making payments. Indicative price formation takes place in several key directions, depending on the type of product and its mode of export from Ukraine (import in Ukraine).

Indicative prices may be introduced for following goods: 1) for which export there were initiated anti-dumping measures or anti-dumping procedures in Ukraine or abroad; 2) for which the special import procedures are being carried out in accordance with Article 19 of the Law of Ukraine "On Foreign Economic Activities" (during international bidding procedures) 3) to export which there are established quota regime and licensing; 4) for the export of which there are set special modes, 5) which export shall be carried out according to the Article 20 of the Law of Ukraine "On

external economic activity" with regard to the requirements of FEA antitrust legislation, 6) in other cases to fulfill Ukrainian international obligations.

Main elements of monetary and financial contract and payment terms include: 1) currency of price and pricing method, 2) the currency of payment, currency conversion rate prices in the currency of payment, if they do not match, and 3) payment terms, 4) forms of payment and banks through which these payments will be made.

The right choice of currency of price and currency of payment determines the profitability of the contract. Currency of price is the currency in which price is determined by the contract. The choice of currency of price is affected by the kind of goods, factors concerning international payments, including inter-state conditions, international traditions. Price of goods can be established in any freely convertible currency: one of the exporting, importing or third countries. Sometimes the contract prices are indicated in several currencies or in the collective currencies (Euros) in order to insure foreign exchange risk. If currency of price and currency of payment match, then it is called a currency of contract.

If the currency of payment and currency of prices do not match, then the rate of exchange is specified in the contract terms (e.g., according to market exchange rates). Terms of exchange which are set in the contract include: 1) the rate of a particular type of payment means (the rate of wire transfer payments or bank transfer, postal remittance), 2) conversion rate: this is the average rate of the day, sometimes the rate of a seller or a buyer at the moment of foreign exchange market opening or closing, 3) time of conversion rate (the calculations are carried out at the current exchange rate, often according to the exchange rate the day before or 2-3 days preceding the date of payment) at the appropriate currency market (of seller, buyer or third country).

Incorrect calculation time installation can lead to large losses due to currency rates changes. Yes, one can not transfer the rate of the day of contract conclusion, because in case of instability of currency of payment and its tendency to devaluation, the exporter may suffer losses at the time of payment.

Forms of payment (settlement) are regulated by legislation of the countries - member's methods of monetary obligations according to foreign trade contracts.

Payments for collection letter (encashment) is a banking transaction through which the bank on behalf of his client (exporter) receives the amount of money based on the settlement documents from the payer (importer) for the product shipped or services rendered, and credits these funds to the client-exporter account in his own bank. Encashment represents only the encashment of papers, and a bank does not guarantee the payment of funds to the exporter for shipped goods or services rendered.

Advantages of encashment for the exporter: It 1) reduce the risk of long-term delivery of a commodity (the Bank protects the right for the goods of the exporter until payment or acceptance of documents. Importer may dispose of the goods only after the collection of documents. Receipt of payment is guaranteed once the importer accepts the documents), 2) increases the competitiveness (encashment is less lengthy and burdensome way of an agreement in comparison with the bill of credit. The exporter can sell goods at lower prices, increasing his competitiveness), 3) is convenient (bank may offer an effective means of handling documents, making payments and communications), 4) the exporter is able to obtain funds from the Bank with the help of an acceptance or governmental exporter support program.

Disadvantages of encashment for an exporter: 1) the duration of passage of documents through banks and, consequently, the term of payment (acceptance), which can take from several weeks to a month or more, 2) exporter bears encashment costs (Additional costs caused by non-

payment or acceptance failure by an importer. The importer has the right to refuse payment of the filed documents or may not have permission to transfer currency abroad. In these cases bank is not responsible. Exporter will bear the costs connected with storing the goods, insurance, selling it to a third party or transporting it back to his country) 3) obliged to carry out production and transportation of goods in advance.

Benefits of encashment for the importer: 1) he actually pays for the goods shipped, 2) costs are reduced (encashment costs in the form of bank charges are relatively low. In some cases, according to the intergovernmental or inter-bank agreements on mutual trade and payments, the commission may not apply at all).

Disadvantages of encashment for the importer: 1) he makes payment or acceptance, without being able to check the quality of goods in advance; 2) there can be harm to his reputation in case of nonpayment or refusal of acceptance (the exporter may issue special instructions on order of "protest" on his behalf, allowing to make a formal complaint).

The bill of credit is a bank monetary obligation issued by it on client's behalf in favor of its contractor according to a contract. The bank that has opened a bill of credit (issuing bank) can make a vendor payment or grant permissions to another bank to make such payments provided that it represents the documents indicated in a bill of credit.

Bill of credit is an agreement according to which the bank agrees to the request of the client-importer (credit applicant) to pay the documents that match the bill of credit, the exporter (beneficiary) in whose favor the bill of credit was opened.

Foreign trade banks are fully responsible for the timely payment of documents submitted by the beneficiary, if the documents fully comply with the terms of credit, and for timely regulation and eliminating discrepancies in the documents by means of necessary work with its customers – with beneficiary for advising bank and the applicant for the credit for the issuing bank.

Advantages of bill of credit for exporter: 1) minimal risk of goods payment failure (the bank can not refuse payment of completely relevant documents, if it took an irrevocable commitment to implement such fees), 2) payment made faster and easier by the bank than the encashment from importer 3) bill of exchange accepted by bank can be discounted if there is a market of financial instruments in a country.

Disadvantages of bill of credit for exporter: reduced competitiveness (a seller can limit himself or his market and may have difficulty finding buyers, because an importer bears huge costs and a considerable amount of work with documents).

Advantages of bill of credit for importer: 1) it's used in practically all countries, 2) flexibility in payment terms, 3) security (payment occurs only after submission of relevant documents for accreditation, confirming the shipment of goods).

Disadvantages of bill of credit for importer: 1) he bears huge costs and a bill of credit presupposes a significant amount of work with documents, 2) he makes payment without being able to test the quality of goods.

Bank transfer refers to non-documentary forms of payment. It is incorporated into other forms of international transactions (bills of credit, encashment, checks and promissory notes).

Bank transfer is a payment bank operation, that represents a commercial bank warrant to its correspondent bank to pay the proper amount of money at the request and expense of the person who wants to transfer to foreign recipient (beneficiary) indicating the method of compensation to payer's bank of the amount paid by it. Bank transfer consists in sending a payment order from one bank to another.

Payment order is a payment document that contains the authorization of the payer bank to carry out remittance of a specified amount of cash from his account to the recipient.

Sending money abroad is based on the transfer application, which states: 1) the transfer amount in foreign currency (in numbers and words), 2) the method of transfer (by post, telegraph, SWIFT channels), 3) name of the party receiving the transfer, address and account number, 4) The Bank, whose client is one who receives the transfer, 5) the purpose and destination of transfer, 6) number and date of foreign trade contract; 7) product name, 8) account numbers, from which the amount of transfer should be taken and possible costs and commission of transfer.

During remittances to pay for works and services by non-residents, taxpayers must comply with the Resolution of the National Bank. Banks do not assume any responsibility for payment (delivery, transfer documents and the payment itself are not included in the function of the bank prior to submitting a payment order), because they have minimal responsibility and charge minimum commission. The amount of commission is determined by the bank and expressed in a percentage.

Advance payment is a form of non-documentary payment. In literature, it's often refers to as a method of payment, depending on the mechanism of payment for goods with respect to the moment of its actual delivery.

Advance payment is a sum of money or property value that is transmitted by the buyer-importer to the seller-exporter before the shipment of goods on account of contractual obligations.

Advance amount depends on the purpose of advance, its nature and novelty of the product, its cost and time of manufacturing, etc. Advance payment may be provided as the amount of the full cost of the contract, and as a fraction, corresponding percentage of it.

For exporter the most profitable is an advance payment for the total amount of the contract or payment in advance. Benefits of pre-payment: 1) the exporter is protected from the risk that a foreign buyer refuses or is unable to pay for product that it already shipped 2) the exporter receives in his disposal free funds, which may be used to purchase raw materials, salaries, technical equipment of enterprises, etc. 3) Exporter is free from having to apply to the bank for a loan with payment of interest and other charges, 4) in case of refusal to take the ordered goods exporter has right to use advance to compensate losses.

Disadvantages of this form of payment have more to do with importer: 1) the risk that the exporter does not deliver the product or deliver untimely and of a different quality or specification, 2) non-compliance range of goods supplied and package conditions that can lead to goods being recognized as not standard; 3) the risk of losing an advance, 4) importer credits the supply before he receives the goods at his disposal.

Payment on open account provides keeping of open accounts by partners for each other. The amount of current debt is recorded. When using this form following steps are taken: 1) the exporter ships the goods and sends the documents to the importer, 2) the exporter places the amount of cargo value to debit account opened by the buyer, 3) the importer carries out the same record in credit accounts of the importer, 4) after payment being done the exporter and importer do compensating adoptions.

The peculiarities of this forms of payment include: 1) this form of payment provides a large amount of contractors working with sales accounting, 2) the importer receives shipping documents by directly, bypassing the bank, 3) full control over the timely payment rests on the shoulders of parties, primarily exporter, 4) goods transit outpaces the transfer of currency funds, 5) it's the cheapest form of payment and it is characterized by relative simplicity of implementation.

Open account payment is the most risky operation for exporter, because it doesn't guarantee that the importer regulates his debt within the agreed time. After gaining of all rights for goods by importer, the exporter can only rely on the solvency and integrity of the buyer. To achieve greater reliability payment exporters insist on billing for their own benefit payment guarantees. This form of payment is the most favorable for the importer, because he makes payment only after the receipt of goods. So he has no risk of goods non-delivery.

In Ukraine a form of an open account is not widespread, because of low payment discipline, lack of access to information database on the financial position of firms, lack of legal basis for making payments according to this form that controls and regulates the responsibility of the payer for non-payment obligations.

8.5. Transportation provision of foreign trade contracts (agreements)

International transportation is an important type of foreign economic activity. Goods can't be delivered from one country to another without the use of vehicles. International transit is a transit between two or more states. International Transportation of Goods is done by sea, river, rail, air, road, pipeline transport. Transportation costs significantly affect the contract price of the goods, the volume of trade. They can be so huge that make exports and imports unprofitable.

The moment of accounting of export and import operations for water, rail, road and air transportation is: 1) when exporting - the date of permission to cross the border, which is indicated on the customs stamp, which is applied to the CCD (cargo customs declaration), and 2) when importing - customs authorization date, which is placed on CCD, 3) when exporting and importing goods that are shipped by pipeline transport and electricity - the date of delivery-acceptance act, which was made on border control and at other points of piping or wires distribution, 4) when sending goods by post - the date of mailing receipts.

Transportation is the primary means of connections between the exporter and importer. Timely delivery of cargo to final destination in good condition is the purpose of transportation. The tasks of transporting are: 1) the safe transportation route, 2) quality service, and 3) minimal cost. When choosing a transport following aspects should be taken into account: geographical location of exporting and importing countries, the distance between countries, the nature of the goods being transported and their value, the cost of transportation, security of transportation. Descriptions of some types of transport are listed in Tab. 8.5.

Companies regularly engaged in foreign trade transactions, usually turn to specialized services of forwarding companies. This is because transit service requires special knowledge, great experience and the great distance from the ports and borders makes it very expensive.

Table 8.5

General characteristics of certain types of transport

Types of transport	General description
<i>1</i>	<i>2</i>
Sea transport	Maritime Transport provides transportation of 80% of the total load. Peculiarities: 1) low cost of transportation (two times lower than that of the railway) compared with other modes of transport, 2) Mobility (can easily switch from one route to another), 3) virtually unlimited capacity of sea routes, 4) large freight-carrying capacity, 5) low fuel consumption (traffic between ports is the shortest path), 6) there are no overall limits, 7) labor productivity is five times higher than for rail transport. Multilateral international treaties that contain standardized traffic rules characterize sea transportation: 1) Brussels Convention for the Unification of Certain Rules of

	loading, 2) International Convention on Limitation of Liability of owners of seagoing vessels, 3) International Convention on certain rules concerning civil jurisdiction in matters of collision, 4) International Convention for The Unification Of Certain Rules Relating To Carriage Of Passenger Luggage By Sea, 5) International Convention on Marine Cargo, 6) Athenian convention on maritime transportation of passengers and their luggage.
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Table 8.4 (continued)

1	2
Railway transportation	<p>Railway transits have simpler international regulation compared with sea transit. The fact is that the transit by rail is less risky than transit by sea. Even if there is a railroad accident, a product can remain fully or partially not damaged, but if a ship sinks, the goods are entirely lost. International railway transit is based on bilateral and multilateral agreements and is regulated by the railway consignment note, which is a form of contract between the carrier and owner of goods. Depending on the system of railway traffic following regulations is used: Convention Concerning International Carriage By Rail; International Convention Concerning The Carriage Of Goods By Rail; International Convention Concerning The Carriage Of Passengers And Luggage By Rail. Each of these agreements applies to some specific systems and determines the consignment note. Advantages: 1) high efficiency in transportation in the distance more than 200 km; 2) relative low cost and less environmental pollution compared with road transport; 3) the capacity to transport a wide range of different loads; 4) independence from climatic conditions; 5) an opportunity to deliver goods to the enterprise using service roads.</p>
International road transit	<p>International road transit is regulated by the Convention On The Contract For The International Carriage Of Goods By Road signed in Geneva (now acting as amended 1978.) Convention on the railroad traffic, Convention on Road Signs and Signals, European Agreement on general terms of international passenger transport by buses, Agreement on the international highway, Convention On The Contract For The International Carriage Of Passengers And Luggage By Road. International road transit is characterized by the following features: 1) ability to provide quick and safe delivery of cargo to the destination; 2) cargo delivery to the recipient may be made without reloading; 3) large transport mobility; 4) high efficiency of cargo transportation on short distance (to 200 km); 5) uninterrupted cargo transit; 6) dependence on road network; 7) the complexity of the cargo management, which is located very far from the manager.</p>
Air transit	<p>International air transportation is regulated by several multilateral agreements: 1) Chicago Convention (1944). It determined that the regular exercise of air transit to another country is impossible without special permission of that country. Due to the conclusion of Chicago Convention the practice of concluding bilateral agreements on air traffic control was established; 2) Tokyo Convention on Offences and certain other activities on board the aircraft (1963); 3) Montreal Convention on the cessation of illegal acts against civil aviation security (1971); 4) The Hague Convention on the cessation of unlawful seizure of aircraft (1971); 5) Convention for the Unification of Certain Rules Relating to International Carriage by Air signed at Warsaw October 12, 1929 (Warsaw Convention). It is the main international agreement that defines the conditions of air transit of passengers and cargo. It is supplemented by Guadalajara Convention (1961) and Guatemalan protocol (1971).</p> <p>In Ukraine the implementation of air transit is governed by multilateral, bilateral agreements on air services, and air code.</p> <p>Air transit is characterized by: 1) providing high-speed delivery and storage of cargo on the road; 2) way cutoff; 3) ability to transit cargo in areas difficult to reach; 4) high costs of delivery; 5) coordination of international transit routes by airlines in different countries.</p>

International activities of forwarding companies have recently significantly expanded. They provide a wide range of services and enable producers and consumers to focus their activities on their core operations.

List of services provided by freight forwarding companies is quite significant and it includes: 1) studying world situation, regional and national transport markets, comprehensive market research on transit market, 2) comprehensive logistics, to determine optimal routes of transportation, 3) realization provision, making and support at the conclusion of transport contracts, 4) organizing and loading shipping activities, 5) organization of warehousing, 6) preparation of necessary documentation, including customs procedures and provided training permitting, engineering, shipping documents, 7) provision advice to customers, 8) control of passage of goods to destination, including control over the process of actual transit, loading and unloading, warehousing, etc. 9) settlements that are associated with the transportation of cargo, freight, etc.

Freight forwarding companies typically receive a discount on freight ships and other vehicles. This reduces the shipping costs of their clients that compensates for the cost of Freight forwarding companies.

8.6. Economic Efficiency of Foreign Trade Enterprise

Main condition of the foreign operations is their efficiency. Calculation of economic efficiency is conducted by comparing the achieved economic results (effect) of costs for obtaining this effect. Result implies money, cost estimation of profits for the company: cash receipts for goods sent by executed works and services, value of the goods and services and others. Costs imply monetary evaluation of production resources drawn into economic circulation: the cost of raw materials, energy, human resources, outsourced services, mandatory contributions to the various state funds and other expenses, without which the trade agreement can not be done. Economic performance and resource consumption have quantitative dimension. So the economic efficiency can be measured by quantity, i.e. it has a performance criterion.

Criterion - is the main feature that distinguishes it from other classification units. The criterion of economic efficiency varies for different levels of foreign economic activity. Each level corresponds to its assessment of economic interests and its efficiency criterion (Tab. 8.6).

Determination of the effectiveness of foreign economic operations of the enterprise determines the degree of interest in entering the world market. It gives the opportunity to justify separate proposals for the purchase and sale of certain goods. The data obtained can be used to plan the export and import of the enterprise while assessing the structure and directions of foreign trade.

Table 8.6

Criteria for economic efficiency of FEA

Level of FEA performance	Notion of economic efficiency of FEA	Criteria for economic efficiency of FEA
macroeconomic (national economy)	Under the economic efficiency of FEA we mean the degree of national labour savings achieved by the country by its participation in the international labour division and foreign trade.	National labour economy as an additional source of gross domestic product growth and other economic and social macro-indicators.
Microeconomic (Enterprises)	Economic efficiency of foreign trade operations (FEA) implies the degree of increase in revenue from these operations.	Profit as a major measure of effectiveness.

The system of indicators of foreign economic activity of company, organization or firm consists of four groups (Tab. 8.7).

Table 8.7

Criteria for economic efficiency of FEA

Group number	Group name	Indicator
<i>1</i>	<i>2</i>	<i>3</i>
1 group	Absolute indicators:	export volume; import volume; amount of overhead costs for export / import; average account balance; number of complaints received; amount of claims; number of satisfied claims; volume of trademark use of the company; new products export volume.

Table 8.7 (continued)

1	2	3	
2 group	Relative indicators:	dynamics indices:	value index; index of actual volume; price index; quantity index number.
		discharge coefficients of export and import	according to cost; according to actual amount; according to price.
		average duration of export (import) transactions	turnover
		rates of funds return from export / import operations	
3 group	Structural indicators	commodity structure of export or import;	
		geographical structure of export or import;	
		overhead costs structure of export or import.	
4 group	Efficiency indicators (effect)	monetary efficiency of export / import	
		monetary efficiency of export / import	
		profitability of exports and imports	
		economic effect of export / import	
		integral economic effect of the export-import activities	
		efficiency of export products in the domestic market	
		efficiency of purchase and use of imported equipment	
		efficiency of purchasing and selling of licenses	

If FEA subject exports and imports at the same time, the efficiency of his foreign economic activities can be evaluated with the help of the integral index of economic effect (E_{INT}):

$$E_{INT} = \sum_{i=1}^m E_E + \sum_{j=1}^n E_I, \quad (8.14)$$

where $\sum_{i=1}^m E_E$ – sum of effects of all export transactions performed according to a given period, UAH; $\sum_{j=1}^n E_I$ – sum of effects of all import transactions performed in a given period of time, UAH; m - number of export agreements; n - number of import agreements.

Speaking about the economic efficiency of foreign economic activity, it should be noted that there is a lack of evaluation of scientific approaches to development of environmentally oriented foreign trade activities and organizational-economic mechanism of ecological import-export operations, assessing an economic impact of its implementation.

Taking into account influence of export-import operations on the environment in the system of economic calculations can optimize their commodity structure. On the one hand, it helps to optimize production of specific types of products considering environmental factors, on the other, it prevents optimization of resource consumption, which may include resources saving and a choice of alternative resources. Resolving these issues can drastically affect the efficiency of export-import operations. This makes it possible to completely eradicate from the commodity composition of exports and imports of adverse environmental goods and services. This, in turn, will allow to reduce the anthropogenic pressure on the environment (to reduce consumption of resources, turn to the use of technologies to reduce pollution in the production and consumption of goods and services).

Mechanisms of ecological import-export operations must be aimed at stimulating such kind of development ways of national economic system. Economic effect of organizational-economic mechanism of ecological import-export operations is aimed at compensation for the negative impact of foreign economic activity on the environment taking into account requirements of global environmental security and it helps to enhance the adaptability and competitiveness of national economy.

Questions for self-check:

1. Give the definition of "foreign economic activity".
2. Give the definition of "export" and "import".
3. What is meant by customs-tariff regulation of economic activity? Name basic duties, give their brief description.
4. What is meant by non-tariff regulation of economic activity? What tools of non-tariff regulation of foreign trade activities do you know?
5. What is the essence of currency regulation and currency control of foreign trade enterprises?
6. Name agencies for economic activity state regulation in Ukraine.
7. Describe the organizational structure of foreign trade activities of enterprises and characterize its components.
8. What is the specificity of import and export?
9. How can you assess the level of competitiveness of products on foreign markets?
10. What is foreign economic agreement (contract)?
11. What is the structure of foreign economic agreement (contract)?
12. What is the essence of the basic conditions of goods supply?
13. What factors influence the choice of transport in the performance of foreign trade contract?
14. What are the features of the international maritime, rail, road and air transit?
15. What services can be provided by freight forwarding companies on the international market?
16. What is a price contract? What is the difference between contract and indicative prices?
17. What is the nature and characteristics of agreements in foreign trade?
18. What is meant by efficiency of foreign operations?
19. How to calculate economic efficiency of FEA?

CHAPTER 9. MANAGEMENT AND CERTIFICATION OF PRODUCTS QUALITY

Objective: Provide theoretical knowledge and practical recommendations on the organization of the process of qualitative production management in enterprises, to provide theoretical basis in the sphere of provision and qualitative production management.

Subject: valuation methods and processes of quality production management in the enterprise.

Content modules: the notion of production quality, quality figures and their characteristics. Calculations of basic figures of quality production. Methods of measuring the quality of products and their calculations. Interconnection between effectiveness and product quality. Distribution of equity contribution of organizations in the calculation of economic effect at the phases of development and implementation of scientific and technical solutions. Calculation of prices for new products with regard to the level of quality. Standardization and its importance in improving product quality. Standardization of products and production efficiency. The system of UkrSEPRO certificate and characteristics. The key areas of quality management system. Overview of development of system approach to quality management in the world. The system of quality system management. Taking into account financial incentives of quality improvement.

9.1. The notions, figures and methods of determining products quality

Quality of products is a combined characteristic of basic property that determines the ability to meet relevant needs with the most appropriate and economical way in accordance with the requirements.

Properties that determine the quality of products may feature:

- quality parameters (quantitative characteristics of quality);
- indication of quality (quality characteristics).

Options and features are united into quality scores.

For assessment of quality level of products all figures are grouped. Classification of groups of figures such as:

1. Figures of destination.
2. Figures of reliability.
3. Figures of technological.
4. Ergonomic figures.
5. Aesthetic figures.
6. Figures of standardization and unification.
7. Patent and legal parameters.
8. Economic figures.

Figures of destination. Group of appointment parameters characterizing the degree of conformity of the product its intended use, and properties that define the basic functions to perform which the product is intended. Figures define the purpose and scope of this article. In addition figures of destination products, such as engineering and some other industries characterized by useful work, made by product.

Group appointment parameters consist of the following groups:

- classification;
- functional;
- positive;
- the composition and structure.

Classification parameters characterize these products belong to the respective classification group, as well as any other homogeneous products has its own classification. Functional parameters characterize beneficial effect from the operation or use of products as well as progressive engineering solutions that were realized in this production. To the functional parameters refer specific power, productively machines, precision of operations and others.

Structural parameters describe the main design and engineering solutions, ease of installation, mounting and interchangeability of opportunity products. To structural parameters refer: modularity coefficient, level of mechanization and automation products, unit size, and others. Figures of store and structure characterize in the processed materials of impurities of chemical elements and the structural condition of these materials. Figures of material composition can be attributed percentage of components.

Figures of reliability. Reliability is the property of the product saves in a set time within the meaning of all parameters that characterize the ability of a product to perform the respective functions in the set mode and conditions of use, maintenance, repairs, storage, transport and second actions.

Figures of reliability include:

Reliability - ability of the product continuously for the specified time or running time of certain conditions of exploitation.

Durability - ability of the product to save in time working capacity, with the necessary interruptions for repairing of technical equipment, its ultimate state, agreed upon in the technical documentation.

Reparability - property of the product, which consists from its adaptability to support and restore the working condition by identifying and eliminating defects of technical diagnostics, maintenance or repair.

Preservation - property value products continuously to keep the meaning of set of figures to the limits for long storage and transportation.

Figures of technological products characterize the properties of products that make optimal location of costs of materials, funds, labor and time for preparation of production and manufacturing, as well as operation, repair and recycling. So we may distinguish and separately evaluate product manufacturability, manufacturability of their exploitation period of life cycle adaptability and recycling. Single technological figures may have different characteristics of industrial manufacturing products. In engineering, for example, to single figures include technological complexity form factor products, precision machining parameters, the rate of material machinability, interchangeability of parts and others.

Figures of technological products are: labor, material consumption, energy intensity and cost of manufacturing.

Ergonomic parameters characterize the machine in the system "man-machine" and include its adaptability to include anthropometric, biomechanical, physiological and psychological characteristics of man as reflected by the production processes. Group of ergonomic technical articles are divided into four subgroups:

- a) Hygiene and biomechanical – indexes that are used in determining the product under hygienic conditions of the rights of the product;
- b) *Anthropometric* - indexes used in 'determining the conformity of the product size, shape and weight of a person who works with this product;

- c) Physiological and physiological – indices of congruity of product to physiological properties of human functioning and features of functioning sense organs (power and speed abilities of people; thresholds, hearing, vision, tactile sensation, etc.);
- d) Psychological - psychological measures of product characteristics are relevant to peoples profession, reflected in the engineering and psychological requirements, the requirements of psychology of work.

In the subgroup of **hygienic and biomechanical** parameters there are such quantitative characteristics as light, temperature, humidity, magnetic and electric fields, radiation, toxicity, noise, vibration, acceleration and overload of others.

In the subgroup of **anthropometric** figures are figures of accordance to construction body size of person, body shape and its individual parts, weight and other rights.

In the subgroup of **physiological and psychophysical** figures are under construction power products, visual, auricular, touching, and other features of the person.

In the subgroup of **psychological** figures are figures of conformity of the product to capabilities of perception and processing of information, fixed and re-formed human skills of work with the product.

Aesthetic parameters characterize the expressiveness of information, rationality of form, integrity of composition, excellence of production execution and stability of commodity type products. Accordance with the requirements of technical aesthetics of product has the following parameters: information expressiveness, form rationality, integrity, composition, manufacturing excellence, stability presentation.

Methods for determining the values of quality products. Methods of determining numerical values of quality industrial products are divided into two groups:

- means of obtaining information;
- available sources of getting information.

Depending on how you obtain information, methods to determine the numerical values of quality products are divided into: measuring, registration, billing and organoleptic. Depending on the source of information methods of determination values of products quality are divided into: traditional, expert, sociological (marketing).

Measuring method of determining the numerical values of product's quality is based on information, obtained from the use of technical means of measurement. With measuring method people determine the majority figures of quality. For example: weight, shape, size, mechanical, electrical voltage, engine speed, vehicle speed and other figures of individual quality.

Registration method is based on using of information, obtained by counting certain events, objects or costs. With help of this method people define, for example, the number of failures in the operation of products, given time, the costs on establishing and exploitation of goods, the number of different parts of complex product (all standard, unified, original, protected by patents, etc.). By registration method we determine the examples of durability, reliability, safety, indices of standardization and unification, patent law and other figures.

Organoleptic method uses information obtained through the result of sensations analysis from the sense organs of person: vision, hearing, smell, pain, touch and taste. During this method, scores are obtained by analyzing the feelings and image perception according present experience, and they are expressed in marks. Obviously, that exactness and reliability of values of quality, are caused by this method, depend on the abilities, qualifications and skills of individuals that determine appropriate settings properties that are included into the product properties. During this method usage of some hardware (except for measurement and registration) is not excluded,

especially that raise the possibility of human feelings, such as magnifiers, microscopes, microphone amplifier with volume control, etc. Organoleptic method is determined by such parameters as, ergonomic and aesthetic.

Calculation method is characterized by the fact that it was based on the usage of theoretical or empirical dependences for determining the numerical values of quality products. This method is used for the design and construction of technique, when developed product cannot be subjected to the experiments. Certainly calculation method is used for prediction or determining the optimal (normative) values, such as productivity indexes, complexity, reliability and others.

Expert method for determining the values of product's quality is used only in cases where the various parameters of quality can not be identified with other more objective methods. Expert method of problem solving is based on usage of generalized experience and intuition of professional experts. Expert method of assessing the quality of technical products is used in cases where, it is impossible or very difficult to apply methods of objective determination of values of single or complex quality figures with such methods as: instrumental, empirical or calculation.

Level standard. While evaluating the level of quality, that technical level of *homogeneous* products should be used differential, integrated, or mixed integral methods. For evaluation of technical level (quality) *heterogeneous* products is used method that is based on the indexing of quality. Sometimes on evaluation of homogeneous or heterogeneous products the method of expert evaluations of quality is used.

Differential method of evaluation consists in compared with the products of individual quality products with those of the baseline sample.

At the same time according to differential method of assessing the technical level (quality) of industrial product are estimated quantitatively the properties of individual products, so you can make concrete decisions to manage the quality of this product.

When differential method of assessing the quality of engineering products expect some relative figures of the quality assessments of products by the equations:

$$R_{\pi i} = \frac{P_i}{P_{i\delta a3}}, \quad (9.1)$$

$$R_{\pi i} = \frac{P_{i\delta a3}}{P_i}, \text{ with } i = 1, 2, \dots, n, \quad (9.2)$$

where P_i - the value of the i -th index of the quality assessments of products;

$P_{i\delta a3}$ - value of i -th parameter as the reference sample;

n - number of accepted figures to measure quality.

The formula (9.1) is used when increasing of absolute value of quality score to improve the quality of products. For example, the relative figures of productivity, capacity, efficiency, service life are calculated by formula (9.1) because the increase of such single figure points to improve the quality of the product.

In other cases when increase of the absolute value of the parameter characterizes the deterioration of product quality, for calculating the relative value of the parameter the formula (9.2) is used. By this formula one usually calculates relative values of such parameters as material consumption, expenditure, and fuel, energy retention of harmful impurities in the waste, complexity, parameter flow failures and others.

Strategic assessment of quality involves the usage of complex quality. This method is used in cases where the most feasible to assess the quality of complex products only with one number.

Image quality is determined by a complex method of complex quality ratio estimated Q_{ou} products to complex model Q_{6a3} . rate base:

$$R_{\text{я}} = \frac{Q_{ou}}{Q_{6a3}} \quad (9.3)$$

Comprehensive assessment (technical level of machines) on the average quality figures used in cases where it is difficult or impossible to identify major, complex quality and its functional dependence on initial quality. Of course people use weighted arithmetic or geometric average quality.

Weighted arithmetic index as calculated by the formula:

$$K_{\text{я}} = \sum_{i=1}^n P_i a_i \quad (9.4)$$

The average geometric rate as calculated by the formula:

$$K_{\text{я}} = \prod_{i=1}^n (P_i)^{\pm a_i} \quad (9.5)$$

where P_i - the value of the first figures quality of a product ;
 A_i - the weight factor and the first figure of product quality;
 n - number of quality products.

The sum of all weight factors is equal to one:

$$a_1 + a_2 + \dots + a_n = \sum_{i=1}^n a_i = 1 \quad (9.6)$$

There is such a thing as the desirability and undesirability of individual quality. Single rate is desirable if it increases with increasing and complex parameter, improving the quality (e.g. engine power, vehicle speed, endurance drills). With the increasing rate of unwanted complex index decreases, quality deteriorates (weight tool, measurement error, etc.).

Desirability and undesirability of individual performance determine the choice of statistical dependence in the calculation of complex quality.

Weighted arithmetic average rate is used only when all individual figures for which assessed quality product is either desirable or undesirable.

Weighted geometric index is used when assessing the quality of the product for use as desired or not desired index, while the value index is inappropriate in the denominator formula. Integral method of evaluation is calculated as the total relationship beneficial to the total operating costs of its creation, acquisition, installation and debugging of the consumer, etc. It is calculated as the ratio of total or useful effect, expressed in natural units of measurement, W from the operation of machines (or other product) to the cost of its creation and maintenance lifetime:

$$P_{in} = \frac{W}{(K_c + 3_e)}, \quad (9.7)$$

where W - beneficial effect, the number of units of product, or product operation performed for the entire term of the product, for example, the number made procurement or details, tons or cubic meters of recycled materials, etc.;

K_c - the total investment that includes the wholesale price and the cost of installation, debugging and other works;

3_e - operating costs for the entire lifetime of the product.

The above formula is suitable for determining the integral index of product quality with a lifetime of one year. When the life of the product of over one year as an integral index P_{IH} calculated by the formula:

$$P_{in} = \frac{W}{(K_c \varphi(t) + 3_e)}, \quad (9.8)$$

where $\varphi(t)$ is correction coefficient that depends on the life of the product, t years.

Coefficient $\varphi(t)$ is calculated by the formula:

$$\varphi(t) = \frac{E_H (1 + E_H)^{t-1}}{(1 + E_H)^t - 1}, \quad (9.9)$$

where E_H - standard rate of return on investment, usually adopted equal 0.15.

To determine the values of weight coefficient using the following methods.

1. **The method of cost dependencies.** This method the cost is determined of changing every single figure for the same value (e.g. 1%). The larger the costs of achieving this change, the more and the corresponding weight factors.
2. **Method of boundary and nominal values.** If the value of individual quality parameters have tolerances for deviation from the nominal values of weight factors determined opposite depending on the size of these deviations.
3. **Expert method** means to establish values of weight factors of the expert committee. There are three variations of this method: rapid method, ranking and pair comparison method.

To assess the quality of diverse products are used as indices. When under the *index quality* we understand complex index varied quality products, which is weighted relative to the value of quality assessments and basic commodities.

The main figure that used in assessing the quality of complex heterogeneous products is a relative index as a weighted arithmetic - I_π :

$$I_\pi = \frac{K_{\pi_{ou}}}{K_{\pi_{\delta a3}}} = \frac{\sum_{j=1}^m P_{joo} a_j}{\sum_{j=1}^m P_{j\delta\delta a} a_j} \quad (9.10)$$

where m - number of different types of assessments and basic commodities;

a_j - weight coefficients of the j type of product;

Pj σ y and Pj σ az - comprehensive assessments indexes as appropriate samples and basic commodities.

9.2. The interrelation between efficiency and products quality

Before a developer of new product, technology, new type of service must appear an integrated task: on one hand - to raise the level of product quality, on the other - to achieve the desired result more economically, and from the other side – to have the best result, optimize cost efficiency. The main alternative to improve the quality, its counterbalance are the costs. So together they determine the effectiveness of the estimated object relative to the basic one.

Let's look, how with help of purely economic means we can determine the full effect in production.

Most complete characteristic of the effect and in production, and the customer has total or integral, effect over time, while beneficial to pursue and consume products, that is for a term of moral deterioration.

While the renewal in products consumer wants to save costs, in determining annual basis to assess the effect may be assigned as well-known formulas that take into account the difference of reduced consumer costs for the entire period of physical deterioration. The cost savings can be presented as "non-identity" result, which is easily counted as "non-identity coefficient". Its essence consists in keeping the ratio of benefits to consumers from the use of new technology in the objects than the base. Ratio of non-identity- this is the level of quality.

The annual effect on the proportion of reduced costs from not identical results can be calculated by the formula:

$$E_p = M * (K - \Delta), \quad (9.11)$$

where M - the volume of facilities engineering, technology and services, that are reorganized, the production scale on which "affects" this scientific and technical achievement (NTD), simplified - a product of the number of items produced at their cost ;

(K - Δ) = E - Comparative effectiveness of solution, in euro on the hryvna value products;

Δ - the ratio of reduced costs on production and a new base object that is expensive;

K - ratio of value for the consumer base and objects of new technology, its the level of quality.

Consider the economical content of the formula (9.11). For any production system in his stable operation when there is overproduction and deficiency, the result in terms of value identically equal to the cost of every consumer product M. nominally satisfied that he receives in exchange for the price.

Any reorganization of the same includes the following. Reorganizer (scientific development institute, construction bureau and inventor) makes proposals that cause change and costs and change the results.

The effect on the cost of this is:

$$E_b = (3_{\sigma} - 3_{\pi}) * Q, \quad (9.12)$$

where 3_{σ} and 3_{π} are given per unit (full) costs per unit of product in the baseline and new versions;

Q - volume of production.

Let's transform formula as follows:

$$E_B = 3_6 * Q * (1 - 3_H / 3_6) = M * (1 - D), \quad (9.13)$$

where $M = - 3_6 * Q$ scale production.

Similarly, the effect on the results can be determined by the formula:

$$E_p = M * (K - D). \quad (9.14)$$

Then the total effect will look like the formula 9.11

Size $(K - D)$ and in fact, the dimension - is efficiency. It is expressed in UAH that shows that after the implementation costs for each hryvna will receive an additional effect, equal to $(K - D)$.

The practice of calculating the level of quality (K). The level of quality engineering, technology and services can be defined by their comparison.

The level of product quality (K) can be expressed as the ratio of direct usefulness of new and base facilities for the consumer to the following formula:

$$K = K_{\text{кор. н.}} / K_{\text{кор. б.}} \quad (9.15)$$

where $K_{\text{кор. н.}}$ - Usefulness of a new object;

$K_{\text{кор. б.}}$ - The baseline value of the object.

In the case of a linear economic relation between the parameter and savings in consumption (as it happens, for example, in a direct increase of production, reducing power consumption, etc..) the level of quality (K) of a new facility engineering, technology or services on the base can be determined direct payments - through economic effect accounting.

The method of direct account - purely economic, it is not connected with the notion of "quality", though it is in terms of cost savings in consumer and therefore determines the quality.

However, the sphere of this approach is limited. The fact is that not always improvement of performance (e.g. machine) at times is perceived by customer as increasing value, value of the object as many times. Often significantly improved performance of certain consumer items is considered as an additional reserve, and he is ready to pay him only in small degree. Thus, it would be better taken into account not just finished changing economic parameters, but the effect of this change for the average consumer. As the result there is such formula:

$$K = 1 + (K_{\text{кор. н.}} - K_{\text{кор. б.}}) / K_{\text{кор. б.}} = 1 + E_{\text{инт.}} / K_{\text{кор. б.}} \quad (9.16)$$

Let's make a few observations about this formula:

Note 1. While determining the level of quality by method of direct account, we are interested in integral effect ($E_{\text{инт}}$), which the consumer will get for the entire term of the facility (not an annual effect). If the period of physical wear relatively small (1-2 years) and can be neglected by the difference in time and between the moments of the object (purchase item) and its complete destruction, $E_{\text{инт}}$ is calculated by simple multiplying of an annual effect on the operation of the object. If difference can not be neglected, you must keep in mind, that the future hryvna is always less expensive (inflation factor) than at present. This phenomenon is well known to economists, and it should be taken into account by the coefficient α_t . The average annual value of this coefficient to within two significant digits below:

T_ϕ	1	2	3	4	5	7	10	12	14	16	20
α_t	1,1	1,16	1,2	1,24	1,3	1,4	1,6	1,7	1,9	2	2,3

So, if you accept a permanent annual effect of E_p in time (average effect), then

$$E_{iirr} = T_\phi * E_p / \alpha_t \quad (9.17)$$

where: T_ϕ - the duration of the facility;

α_t - a factor that takes into account the time factor.

Note 2. As it was mentioned, the value of object to the consumer at a stable volume of production consistent with its price. At retail price, not cost, because this price is for the consumer equivalent to those to which it exchanges data with this product consumer properties. Given the above and taking into account formula (9.17) expression (9.16) can be written as:

$$K = 1 + E_{iirr} / (\alpha_t * \Pi_6) \quad (9.18)$$

Where: Π_6 - retail price of basic object technique.

Note 3. In international practice of pricing adopted effect from innovation and cost on it divide between consumers and producers by mutual consent. The seller (manufacturer) receives its share of profits as payment for the risks involved in the production of new products, and purchase - as payment for its customers at risk.

Thus, an effect and costs are shared more often in the ratio of 0,5 : 0,5. With this in mind you can find an expression for "price coefficient (K_{ii}) - the rate for calculating the price of a new product by multiplying the price of a basic formula:

$$\Pi_{ii} = \Pi_6 * K_{ii}, \quad (9.19)$$

Calculating the value of K_{ii} could be next. Using the formula (9.11) let's hold in it some transformations: $(K - \Delta) = (K - K_{ii} + K_{ii} - \Delta) = (K - K_{ii}) + (K_{ii} - \Delta)$, with the first bracket shows the effect for the consumer, the second - in effect for the manufacturer. Equating them consistent with the need to divide the effect into two parts: $K - K_{ii} = K_{ii} - \Delta$.

Hence a) if the appreciation in mind:

$$K_{ii} = (K + \Delta) / 2; \quad (9.20)$$

b) if the rise is not taken into account:

$$K_{ii} = (K / 2) + 0,5. \quad (9.21)$$

Calculation of social effect with account to the level of quality. Almost any new car, new technology, new scientific and technical achievement brings in itself not only economic gain, but often also a variety of social consequences.

The essence of method of evaluation of social innovation by changing of environmental parameters consists in determining the value of social impact in view of its scope or application of the social scale (M_c), the level of social quality (K_c) and expensive (Δ_c). Because usually a fee for receiving social effect receiver does not make (for example, for better ventilation in the area where workers don't pay there), $\Delta_c = 1$, the formula for estimating the social effect can be represented as:

$$E_{cou} = M_c * (K_c - 1) = M_c * E_c \quad (9.22)$$

In calculating this formula you need to register a social production (M_c) and level of social quality (K_c).

The scale of social production (M_c) should consider: the number of people (J_c), which affects assessments innovation, the impact (T_c) and the rate of consumption of social benefits (K_n):

$$M_c = K_n * J_c * T_c. \quad (9.23)$$

At this rate of K_n can be estimated from two sides: either through the average wage, or average proportion of national income per 1 person, or the state spent for social purposes, divided by the total number of hours per year.

Let's us return again to the formula (9.22). Size K_c characterizes the change of the impact on a person (after / before innovations) environmental factors that determine the hygienic and physiological conditions of their work and life, in other words, on how many times have deteriorated or improved environmental conditions, comfort (the ratio should be considered "weight " working conditions and innovations).

Researches have shown that in general the value of E_c can be represented as:

$$E_c = \Delta a * \gamma \quad (9.24)$$

where $\Delta a = a_n - a_0$ - change the value of environmental factors from a_0 (to innovation) and to a_n (after);

γ - ratio of the weight factor.

Coefficient of weight factor takes into account the maximum number of hygiene and physiological factors: temperature of air, atmospheric pressure, toxic substances, industrial dust, vibration, industrial noise, ultrasound, infrared radiation, electromagnetic fields that ionize radiation, biological production factors, physical and dynamic load etc. Meaning of coefficient for each factor is determined by state social institutions.

On the basis of formulas (9.23), (9.24) we can determine the social impact on the formula

$$E_{\text{coп}} = K_n * J_c * T_c * E_c \quad (9.25)$$

9.3. Standardization in the quality control system

An important element in management of quality system is standardization - standard-setting activity, which finds the most rational norms, and then fixes them in normative documents such as standards, guidelines, procedures and requirements for development, it's like a set of funds, which establish accordance to standards.

Standardization is one of the most important elements of modern mechanism for quality control of products (works, services). By definition of International Organization for Standardization (ICO), *standardization is setting and application of rules, in order to regulate activity in certain areas in favor of and involve all stakeholders, in particular to achieve optimal total cost, subject to conditions and functional requirements of safety.*

The objects of standardization can be such products, services and processes that have the prospect of multiple reproduction and (or) use.

The overall goal of standardization is the protection of consumer and public on the quality of products, processes and services, providing:

- implementation of unified technical policy in the field of standardization, metrology and certification;
- security products and services for environment, life, health and property;

- security business entities subject to risk of natural and technological disasters and other emergencies;
- quality of products and services according to the level of science, engineering and technology;
- saving all kinds of resources.

Nowadays standardization based on the following *principles*: systematic, repeatability, variance; interchangeability; binding.

The principle of consistency defines a standard element of the system and provides a system of standards, interdependent nature of specific objects of standardization. Systematic - one of the requirements for standardization activities, which involve ensuring mutual consistency, consistency, harmonization and avoid duplication of standards.

The principle of repetition identifies the objects to which the applicable items, processes, relation that have one common feature - repeatability in time or space.

The principle of variation in standardization means a rational variety (a minimum of rational varieties) of standard items included in the object that standardized.

The principle of interchangeability provides (in relation to technology) generation of similar or replacement parts produced at different times and in different places.

Based on these principles were implemented following methods of standardization:

- simplification method- reducing other types and varieties of products to a number sufficient to existing satisfactory at present the need for them;
- unification method - combining two or more documents in a such way that regulated articles with this document could interchange of operation;
- typification method - development of standard designs or processes should be based on the total number of products to specifications;
- specification method - drawing up a basic document design and technological documentation;
- mounting method - layout of machinery to carry out a standard and uniform aggregates.

Depending on the phases and stages of developing new products distinguish the concept of progressive and comprehensive standardization.

Progressive standardization consists in establishing elevated relative to those already achieved in practice within the normal requirements for standardization of objects predicted to be optimal in the following. Progressive standardization based on the correct selection of raw materials and technological processes equipment, rational methods of production, methods of packing, transportation and storage.

Contents comprehensive standardization is a systematic approach in determining the requirements for elements that are included in standard product and are in various stages of production process in relation to the finished product.

The mechanism of action of standardization consists of four stages:

1. Selection object Standardization (regular, recurring items);
2. Modeling object standardization (abstract model of the real object);
3. Optimization model (the optimal model of the object that standardized);
4. Standardization of models (the development of the normative document based on a unified model).

The immediate result of standardization is above regulations (ND). Legal documents - a document that sets out the rules, general principles or characteristics of the various activities or their results.

Depending on the object standardization, the provisions contained in the document and procedures for granting of his force, there are following regulations:

- standards;
- specifications.

Standard - a regulatory and a technical paper on standardization, establishing complex rules, regulations, requirements and facility standards approved by the competent authority. Standards are presented as documents that contain certain requirements, rules or regulations binding.

Specifications - documents that establish requirements for specific products.

Legislation of Ukraine, the following subjects Grading:

- executive authority in the field of standardization;
- board of standardization;
- technical committees of standardization;
- other entities involved in standardization
- the central executive authority in the field of standardization within their jurisdiction:
- provides realization of the state policy of standardization;
- takes measures to harmonize national developed national standards with relevant international (regional) standards;
- participates in the development and harmonization of technical regulations and other regulations on standardization;
- establishing rules of development, approval, acceptance, review, change and loss of effect of national standards, their designation, classification by type and other characteristics, coding and registration;
- takes measures to meet the obligations, resulting from participation in international (regional them) standardization organizations;
- works in standardization sphere with the relevant authorities from other states;
- creates a work program of standardization and coordinate its implementation;
- decides on the creation and dissolution of technical committees of standardization, determines their powers and the order of creation;
- creates organization and regulations of the National Fund and of the National Center on international information network ISONET WTO;
- organizes the offering of information services for standardization.

Depending on the scope of content and level of approval standards are divided into categories and types. By categories state standards are distinguished, industry standards and enterprise standards.

State standards (SS) are developed for a homogeneous groups of products, that is characterized by the universality of the functional purpose, the field of usage and nomenclature of quality, as well as specific products, that is of great economical value. State standards have their effect throughout the whole country on all enterprises, regardless of ownership.

Industry standards - standards set for products, industrial supplies, its spares and technological equipment, instrument, typical technological processes of industry and certain consumer goods. Procedure development, review and approval by relevant sectoral SSs are determined by many ministries. Industry standards are mandatory for all companies that produce these products, regardless from their sectoral subordination.

Enterprise standards - standards, the scope of which covers only the company and that is why they are developed and approved at the company.

The standards are divided into the following types:

- a) The product standards;

- b) Standards for rules;
- c) The general technical standards;
- d) Organizational and methodological standards.

To organize and coordinate the development of standards and its preparation for implementation the following stages are set:

- sun organization and development of normative documents (ND);
- the development of the first edition of the project;
- develop the second version of the project;
- drafting the final version of the project and preparing the case ND;
- state expertise of the project;
- adopt and give effect to the ND;
- state registration and publication of the ND.

9.4. The system of Ukr SEPRO certificate

Guideline systems governed by DSTU 3410. According to this standard establishes System provides the basic principles, structure and rules of the Ukrainian State system of certification of products, processes and services intended for compulsory and voluntary certification and is open for her certification bodies of other states and access to it of any companies and organizations.

The organizational structure of the Certification form:

- National certification body - State Standard of Ukraine;
- science and technology commission;
- certification bodies;
- bodies of quality system certification;
- testing laboratories (centers);
- auditors;
- research and teaching and information center;
- territorial centers of standardization, metrology and certification of Standard of Ukraine;
- Ukrainian educational and scientific center of standardization metrology and product quality.

Structure scheme is shown in Fig. 9.1.

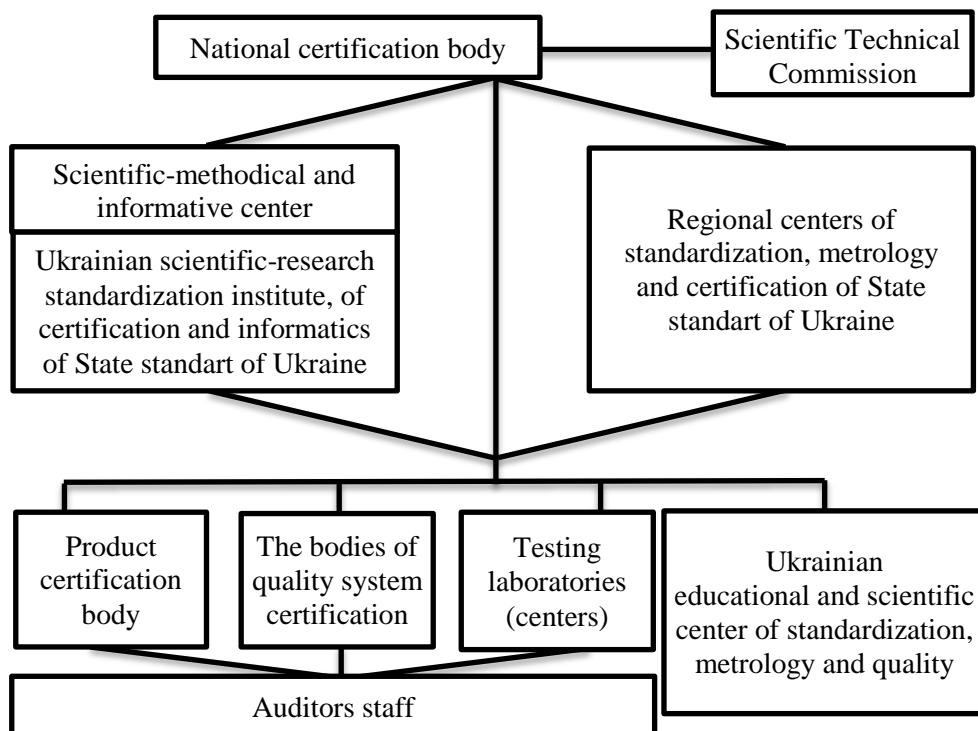


Figure 9.1 – Block diagram of Ukr SEPRO

Made such total and interrelated activities:

- certification of products (processes and services);
- certification of quality systems;
- certification of production;
- accreditation of testing laboratories (centers);
- accreditation of product certification;
- accreditation of quality system certification;
- certification of auditors for listed activities.

National certification body performs the following main functions:

- develop a strategy for certification development in Ukraine;
- organizes, conducts and coordinates work on the operation of the System;
- interacts with national certification bodies of other states and international organizations operating certification;
- organizes the development and improvement of organizational and methodical documents of the System;
- makes decisions on the accession to international agreements and systems of certification;
- establishes the basic principles, rules and structure of the System, as well as mark of conformity and rules for its use;
- establishes the legal and economic foundations of the System;
- creates and approves the composition of the scientific and technical committee;
- keeps the Register of System;
- organizes work product certification body in the case of absence of a certain type of product certification;
- approve the list of products subject to mandatory certification;
- examines appeals regarding the rules of the System;
- organizes informational support activities in the certification system;
- is responsible on behalf of the state for compliance and procedures for certification of products installed.

Scientific and technical committee is formed and approved by the national certification body and performs the following functions:

- creates a unified policy on the construction, operation and improvement systems;
- make proposals on cooperation with national authorities of other states and international organizations of certification.

Bodies of product certification and quality management systems designated national certification body.

Product certification body performs such basic functions:

- provides management system certification, is assigned to it range of products and is responsible for its functioning;
- develops organizational and methodical documents for certification of fixed production;
- appoints the scheme and procedure for certification of fixed production;
- organizes and conducts the certification of production;
- Responsible for the technical supervision of certified products and its production;
- Issue certificates of conformity certificates for products and industries.

Certification body of quality systems performs the following main functions:

- develops organizational and methodical documents on quality system certification;
- organizes and conducts certification of quality systems;
- organizes and conducts the proposal of the certification body certified products industries;
- provides technical supervision of certified quality system and certified productions;
- issues certificate of quality system.

Testing laboratories perform such basic functions:

- carry out tests of products certified according to industry accreditation and issuing test reports;
- participate on a proposal of a certification body in the technical supervision of manufacture of certified products, and on the proposal of national certification body - in conducting inspection;
- participate on a proposal of certification body in certification of products certification.

The auditors of the certification are certified in the System and registered with the System, on behalf of the national certification body, perform certain types of work related to product certification.

Methodological and information center of the system is the Ukrainian Research Institute of Standardization, Certification and Computer Science, which performs the following main functions:

- develops and improves the methodic-organizational documents of the system;
- prepares and submits to the National certification authority proposals and drafts of legislation in the field of certification;
- prepares proposals for the nomenclature of products, that must be mandatory certificated;
- participates on a contractual basis in preparing organizations for certification and quality systems and so on.

The regional centers of standardization, metrology and certification perform such basic functions in the system:

- carry out on behalf of the national certification body the inspection enforcement of the rules of the system;
- carry out by the proposal of the products certification body technical supervision of the stability of indices of certified products during its production;
- provide on a contractual basis methodical assistance to the organizations in the preparation for the certification of production, quality systems and certification of production.

Ukrainian Educational and Scientific Center of Standardization, Metrology and Certification provides training and refresher training in the field of certification.

Policies and order of certification holding of the Ukr SEPRO

The right of holding the works of product certification concedes to the certification bodies, testing laboratories (centers) and auditors that are accredited and registered in the system. Certification bodies of the system can be accredited organizations and enterprises of the state patterns of ownership. Testing laboratories (centers) can be accredited organizations and enterprises of all forms of ownership. If you have several accredited certification bodies of the same product, the client is entitled to certify the products in any of these bodies.

The system establishes the following responsibilities:

- manufacturer is responsible for the non-accuracy of certified products to the regulatory of requirements and the use of certificates and marks of conformity with the violation of the system;
- seller is responsible for the lack of certificate or mark of conformity to a service that is implemented if it can be mandatory certificated;

- executor is responsible for the accuracy of the fulfilled product to the requirements of regulations and use of certificates and marks of conformity with the violation of the system;
- certification body is responsible for unjustified or unlawful issuance of certificates of conformity, production certificates and proof of their actions, and also for violation of the rules of the system;
- agencies, laboratories, certification auditors, organizations which violate the rules of the system, are excluded from the Register of the system and are responsible under the legislation of Ukraine.

The procedures of product certification are regulated by ISO 3413. According to this normative document the product certification in the system is transmitted only by certification bodies, and in case of their absence it is made by the organizations that execute the functions of a certification bodies on behalf of the national certification body.

In general order of activities of the certification includes the following stages:

- presentation and consideration of the application;
- analysis of submitted documents;
- inspection of production;
- certification of production;
- certification of quality systems;
- tests for certification;
- issuance of a certificate of conformity.

Presentation and consideration of application. For the product certification the applicant presents the application of the appropriate form to the accredited product certification body. This application must be considered, and not later than one month after its submission, the applicant should get a solution that contains the basic certification requirements. Copies of the decision are sent to:

- the Authority of quality system certification (if necessary);
- the testing laboratory that will conduct the trial;
- the body that carry out technical supervision (if necessary);
- the territorial center of standardization, metrology and certification according to the location of the applicant.

If there are several accredited certification bodies of a certain type of product, operating in different regions, the applicant may apply to any of them.

Analysis of documents. It is made to verify its compliance with requirements. While analyzing the submitted documentation it is checked:

- the existence of regulations for the production (if necessary);
- the availability of the document certifying the origin of products;
- the availability of the document of the manufacturer about the assures and correspondence to the force requirements;
- the availability of the document confirming the date and volume lot of output;
- the availability (if necessary) of the conclusions of the appropriate regulatory organizations;
- the accuracy, correctness of filling and validity of documentation;
- the adequacy of requirements for marking and labeling products. Negative results of analysis of documentation are made in a form of conclusion that is given to the applicant to eliminate all shortcomings. Positive results are used for the preparation and execution of a compliance certificate.

Testing for certification. It is performed by testing laboratory. The applicant provides samples (sample) of products for testing and the legal documentation for them. The number of samples and their sampling rules are set by certification body.

If the results are positive the test reports are transmitted to the products certification body, and the copy – to applicant.

In case of a negative result at least of one of the characteristics of the test for certification are terminated, the information about negative results is given to the applicant and products certification body, which cancels the application. New tests can be conducted only after filing a new application and giving the certification body the conclusive proof of conducting of the enterprises corrective actions in order to eliminate the causes of the discrepancy.

Samples that are tested for certification, including the devastating, remain the property of the applicant.

Issue certificate of compliance. If there are present the protocols with positive test results, quality system certificate or certificate of manufacture, depending on the adopted scheme (model) of certification, product certification body prepares the certificate of compliance, registers it in the register of the system and gives the applicant, who after that has the right to mark products, containers, packaging, accompanying documentation and promotional materials with the mark of compliance.

The validity of the certificate for the products that is produced commercially within the time limit prescribed by the license agreement defines the certification body, taking into account the duration of regulations of production, the term for which the certificated quality system or qualified production, guaranteed term of products fitness prior to its implementation or the term of preservation of products, but not more than two years if production is certified, and for three years if the quality system is certified.

The term that is established in the license, can not be continued. The order of giving a new license instead of that one that lost power is determined by the product certification body in each concrete case.

Technical supervision of stability parameters of certified products during its production is made by a body which issued the certificate, or by his recommendation the organ of certification of quality systems or territorial centers of standardization, metrology and certification. The technical supervision can be participating by the specialists of State Supervision of Occupational safety and health, State Sanitation etc.

Scope, procedure and frequency of supervision are established by product certification authority during the certification.

As a result of supervision the product certification authority can stop or cancel the license or certificate in such cases:

- violations of the requirements that are applied to mandatory certification of products;
- violation of manufacturing technology, rules of acceptance, methods of monitoring and testing, marking of products, which are consistent with the certification body during product certification;
- changes of regulations of production or methods of their tests without prior approval of the certification body;
- changes in structure (composition) of completeness or product manufacturing without prior approval of products certificate authority.

Information about the results of product certification. A product certification body keeps a record of issued by it certificates and submits their copies to the national certification body, which publishes directories that contain information regarding to the certified products.

Product and organization certification body that acts on his behalf is responsible for disclosure of professional secrecy regarding to the confidentiality of information.

All works of product certification are paid by the applicant under the work contracts that are concluded with the product certification authority of applicant. Expenses for carrying out certification of products include the cost of production.

Testing of production. It is conducted to establish whether the actual status of production is up to the documentation requirements, verification of capability of the enterprise to produce products in accordance with applicable regulations, issuing recommendations on the frequency and forms of technical supervision over the manufacture of certified products. During the survey of the production the examination of regulatory, technical and technological documentation is made.

Certification of production. It is made by a product certification body according to ISO 3414. Its results are issued by certificate of manufacture, which is forwarded to the applicant.

Quality System Certification. It is made to assure product certification body that the products which are produced by the enterprise meets the mandatory requirements of the regulations, all technical, administrative and human factors that affect product quality are under supervision, poor quality products appear in time, and the company takes measures to prevent the production of such products constantly. The procedure of its holding will be considered below.

9.5. The main ways of the activity improvement

Preparation of competent managers in the whole world involves the study and application of modern methods of quality management, products, services, processes and control systems. Nowadays different systems of quality management are used. For their successful work in modern conditions they must ensure the ability of implementation of the following main ways of the quality management system:

1. The interest of senior management.
2. Establishment of the collegiate management by the improvement of activities.
3. Involvement of all key personnel.
4. Collective participation.
5. Individual participation.
6. Creation of groups for improvement of systems and processes.
7. Involving suppliers.
8. Providing the quality of operation management systems.
9. Forming of strategies and tactics to improve operations.
10. Creation of system of stimulation and recognition of deserts.

The new attitude to quality should start from higher administrative officials of the organization. This success will depend on the degree of participation of executives, as only managers decide those tasks which can improve the organization's activities, namely:

- determination of policy;
- creation of the organizational structure;
- the allocation of resources;
- selection and training of personnel;
- definition of working methods;
- establishment of labor standards;

- setting of priorities;
- assessing and encouraging of results of activities.

To decide whether it is reasonable to devote their time to validity and allocate funds for the improvement of his company to improve production quality, the director can be offered to answer the following 20 questions:

1. Does the number of potential consumers of goods and services of your business increase every year?
2. Are your losses from a lack and cost for correcting defects less than 1% of value of sales?
3. Do you execute the production schedule?
4. Do you keep the planned costs of production?
5. Do you use only those materials, parts and components, which are up to the requirements of the technical standards?
6. Are the losses of working time because of absences and absenteeism at work because of other reasons less than 5%?
7. Does the annual labor turnover make less than 5%?
8. Are you able to attract the best staff for your business?
9. Do you spend an appropriate amount of funds to train your staff taking into account the size of loss because of staff's errors?
10. Do your employees perform their duties during 90% of the working time?
11. Do you understand the demands of your consumers in the right way?
12. Would you like to raise the morale of your employees?
13. Do you think that the enterprise's workers can work better than they work?
14. Does your admission control reject less than 1% of parts and components that come to your enterprise?
15. Do the controllers make less than 5% of the of production workers at your enterprise?
16. Does the over the norm work of your staff that is not related to the manufacturing operations make less than 5% of the working time?
17. Do you think that it is possible to lower production costs and shorten production cycle?
18. Can you boast about the lack of complaints from your consumers?
19. Was the rate of growth of work productivity at your firm higher than the rate of inflation during the last 5-10 years?
20. Were the rates of growth of your dividends paid on shares higher than rates of inflation during the last 5 years?

A positive answer "Yes" should be marked as one point. According to the results of answers for all questions as the sum of points one can give the following recommendations.

Points	Recommendation
18-20	Enterprise works well; there is no especial need in its improving
14-17	You should think about the process of improvement of activities
10-13	The process of work improving would be very helpful for your enterprise
0-9	Improvement of work should be your main task

Such kind of questionnaire can be developed also for the assessment of the feasibility of improvements in non-profit organization or institution.

The role of senior management. The successful implementation of process activities improvement, first of all, depends on the support of senior management.

The effective way to determine the aspiration of management for increasing the efficiency of the company's activity is the survey of senior staff.

10 questions about the activities of the enterprise can be recommended for the survey. The answer must be given according to the ten point scale. The questions can concern the present situation, the situation that should be, and the level of significance of this question. Primarily such questions may be asked:

1. How well do the performers cooperate?
2. How well do the departments cooperate?
3. How good is the service of departments and staff?
4. How does management care about the quality of work?
5. How do the workers care about the quality of their work?
6. How high is the morale of employees and workers?
7. How high is the productivity of employees and workers?
8. How well is the work of officials and workers organized?
9. How good is the exchange of information between performers?
10. How good is the exchange of information between departments?

The effectiveness of survey depends on the frankness, so it should be confidential. The outside organizations can be needed for summing up and analysis of data.

When analyzing the survey data it is necessary to pay attention to two factors:

1. The level of assessment of the current state of affairs, which helps to determine a degree of need of improvements.
2. The difference between the estimates of current and desired state of affairs. The best is the convergence of estimates.

The process of training of quality must be built in such a way as to meet the needs and interests of different categories of managers. That is why training is conducted at three levels:

1. Senior managers.
2. Mid-level managers.
3. Lower-level managers, line managers.

Training in quality assurance of senior management. The higher the position of manager is, the deeper he has to understand the relationship between adjacent functional departments. During the preparation there must be presented to complex of concepts, methods and administrative procedures related to quality assurance, which are to develop a conscious attitude and train skills that promote problem solving of efficiency and quality increase.

Training material can be given in different ways depending on the specific of organization. After the first course there can be conducted two-hour sessions for getting more detailed knowledge. How many hours should be devoted to training on quality of senior leaders? The answer depends on the experience gained at the organization. As an example we may take the course curriculum of the senior management proposed by the Japanese Union of Scientists and Engineers:

- the role of senior management – 1,5 h;
- statistical methods – 3,5 h;
- quality Management – 3,5 hours;
- quality control in manufacturing – 3,5 h;
- quality management in purchasing and sales activities – 3,5 h;
- quality – 3,5 h;
- development of new products – 2,0 h;

- quality management in the country and in the world – 3,5 h;
- collective discussions – 3,5 h;
- reports of collective discussions – 3,0 h.

Training in quality assurance of mid-level managers. Mid-level managers must be taught by particular program because they have to play a special role as responsible for the preparation of lower level managers. They should understand the principles of all other application methods better than everyone in order to improve quality, collective management and process of work improvement.

The contents of the introductory course can be the same as for senior managers, but it is necessary to provide more detailed elaboration of methods of solving problems, management of processes, methodology of collective management, the transition to the preventive management style and the introduction of the concept of defectless work. The course should include analysis of specific economic situations and simulation games.

Training of line managers. The head of lower level influence the morale, attitude to work, labor skills of workers and demands for quality work. That it is why it is necessary for leaders to have a clear and complete idea of the principles of quality assurance, requirements for work results and the ways of effective implementation of process of activities' improvement.

The development of base training program for the line managers is made by head of the mid-level managers. Many elements of this training are already incorporated in training programs of middle-level managers and senior managers. The curriculum should include a short meeting to consider such questions as collective management, problem solving techniques, statistical methods and analysis of the work of departments. In the program it should be underlined that the most important role in identifying and removal problems is played by the ordinary workers.

9.6. The collective workers participation in the quality improving of the organization functioning

Group approach – is a joint effort of two or more persons to perform a specific task. Four types of groups are mainly used: 1) *groups in improvement the activity of departments*, 2) *quality circles* 3) *groups in improvement processes*, 4) *the purpose groups*.

Groups in improvement the activity of departments consist of employees of one or another department. Their task is to identify trends and develop measures with the help of which all employees can help to improve the quality level and the efficiency of work of this department.

The head of the department is usually the head of a group, but later it can be a prepared and capable employee who does not apply to administrative staff. The group finds the problems that lead to errors, and factors that reduce the efficiency of the work of the department. Then it develops and carries out corrective measures to remove obstacles that impede rise of efficiency and faultless work of department.

Organization of group's work. It is necessary to prepare an initial phase of the group's activity. All employees must have appropriate training. Group in improvement the activity of department in its development consists of three stages: 1) realization and education, 2) understanding, 3) problem-solving and decision-making.

The stage of realization and education covers the following aspects:

1. Understanding the organization's goals.
2. Understanding the process of activities' improvement.

3. Argumentation of the standard "faultless work" as a norm of activity.
4. Methods of collecting and classifying of data.
5. Methods for identifying problems (method of "brainstorming" and others).
6. Methods of analysis problems (cause and effect diagrams and Pareto diagram, expert group analysis of the real situation, histograms).
7. Documentary presentation of results (graphs, tables, reports for management).
8. Evaluation results.
9. Control figures and spot check.

Stage of understanding. The analysis of work of department (AWD) is the main tool that helps the employees to understand their involvement in the process of improving its activities.

As a result of AWD the appropriate document is developed by the group in improvement the activity of department. AWD is based on the premise that all departments and performers receive the raw materials for their work from other sources (suppliers), work them up, thereby increasing their value, and transmit the results of the fulfilled work to its customers. This concept assumes that each employee is a consumer of the results of work of another employee and in turn has the consumer, whom he transmits the results of his work. Each is responsible for the quality of his work.

After that, the list of major works, completed at the department is made. It may, for example, include the following kinds of work:

1. Survey of markets.
2. Calculating of the cost of production expenses.
3. Interview the prospective employees.
4. Development of predictive assessments.
5. Preparation of manual about the preparation of products for use.
6. Analysis of consumer complaints.
7. Design of test equipment.
8. Keeping of secret documents.

There must be not more than ten main types of work. Contents of each type of work are examined in details later.

As a result of AWD a list of parameters that characterize the quality of the work of the department is preparing. The group should select from three to five key figures, which are called "indexes of improvement". Graphs that are posted at each department are made according to them. Each graph must show the data obtained at least for six months, and given the level of work quality. When the control number on any index for three consecutive months is achieved new reference numbers must be given.

Phase of problem-solving and decision-making. Now the organization staff is ready for the most productive stage of work of groups for improvement of work of departments. The group selects the promising goals as a set of quality figures of the work of the department. Then it outlines new goals for improvement, and then the whole cycle begins from the beginning.

Benefits and advantages:

- 1) all employees are actively involved in the process of work improving;
- 2) making methods for solving problems, forming the appropriate skills and solving real problems;
- 3) the head of department maintains the role of lead of the department;
- 4) workers regulates the activity of the department independently;
- 5) a system of criteria for assessing the main kinds of activities within the department is created;

- 6) creating an effective communication system to a higher level of information about the problems that can not be resolved within department;
- 7) the relations between ordinary workers and managers are getting better.

Disadvantages. The main disadvantage of the groups in improvement of the work of departments is that the meetings require the cessation of the activity of the entire department. However, the major part of the departments quickly adapts to this system, and within two months productivity of work begins to exceed the former level.

Quality circle – is a small group of employees (from 6 to 12 people) who voluntarily meets on a regular basis to deal with the conditions of their work.

Circle is formed with the approval of the leadership to solve specific problem identified by the workers of the organization. Quality circle can work on a regular basis or be discharged after the final solution of the problem.

The following basic features are characteristic for quality circles: 1) meetings of the circles are held regularly, 2) the circles are based on the principle of voluntary participation, 3) the problems solved in circles as related to labor activities in this area, 4) problems are detected, investigated and resolved by the members of the circle, and then the assessment of the results is made by them, 5) the quality circle is dissolved after solving the given problem.

Usually the organizational structure consists of the coordinator, supervisor and union representative.

Coordinators of the quality circles are selected for the program coordination for the implementation of quality circles with the organization's management. They should:

1. Manage the entire program of the circles' introductions.
2. Prepare the materials that explain the benefits of quality circles to management and employees.
3. Develop and implement training programs for employees to participate in quality circles.
4. Interest workers with the idea of creating quality circles.
5. Assist members of the quality circles to solve problems.
6. Organize, if it is necessary, the consulting help for quality mugs.
7. Organize special courses for managers of quality circles.
8. Make initial meetings of quality circles, till the elected head will not familiarize with his provisions.

The head or employees of the department should choose the potential leader of the circle, who should receive appropriate training. Training includes the following questions: 1) quality circles activities, 2) organizational structure of quality circles, 3) study treatment within a small group, 4) methods of solving problems, 5) methods of collective management, 6) interpersonal relationships.

The head of the quality circle is responsible for: 1) encourage of participation in activities of the quality circle, 2) the organization and preparation notices for future meetings 3) assist the coordinator in training the members of the quality circle, 4) carrying the meetings as a chairman; 5) preparation of documentation, relating to meetings and activities of the quality circle.

The duration of the meeting of the quality circle must not exceed one hour. The first seven or eight sessions are training sessions.

Quality circles can complement activities of the group of improving the work created in the department. For example, if at the meeting of the group raises the question of a narrow character that does not affect the activity of the whole department, then such questions could be decided on a voluntary basis by the members of the quality circle.

Advantages of the circles: 1) the members of the quality circle are only those workers who do want to engage in this activity, as a result they do not need extra incentives, 2) education broadens the mind of some members of the circle, 3) officials are considering the problem in solution of which they are personally interested 4) members of the quality circle are interested in carrying out their decisions in life, 5) the program of the quality circle helps to overcome resistance to economic reforms.

Disadvantages: 1) in the solution of problems not all employees of the department are involved 2) employees of the department who are not the members of the quality circle, may treat the adoption of its proposals with mistrust.

The group of the improvement of the process is created to improve the quality of its functioning and raising the efficiency of the process, covering the activities of several departments. The group of improvement of process consists of experienced, qualified specialists from each department involved in the process, and support services. The members of the group and its chairman are appointed by the leadership of the organization.

The main duties of the group are:

1. Development of a process route.
2. Identifying of areas of control and lines of feedback.
3. Certification of the process.
4. Developing and implementation of plans for improving the process.
5. Reporting about the quality of the results of process, its effectiveness and changes in it.

Development of a process route. The group of improving the process starts its activities to develop his route scheme. The scheme shall include all communication of the worker with the process.

The next task of the group of improving the process is to determine the procedures necessary to perform each operation. It is also determined the existence of the documentation that establishes the training requirements and staff training, performing each operation.

The guarantee of the correctness and accuracy of process route is to check the whole process, conducted by the members of the group. Such analysis allows the group to create a list of problems detected directly in the workplace, to develop a list of recommendations for improving of the process, to determine compliance of teaching program and training of personnel and also to identify the advantages and disadvantages of the process.

Identifying of control areas and lines of feedback. The group of improving the process must establish possible sources of errors and then distribute the areas of the operations control results close to sources of errors. Then the group must build a feedback circuit that allows the executers to correct mistakes made within their field of activity. This system provides the group with the information, allowing management to make decisions about the expediency of investing assets in equipment modernization, staff training, changes in procedures, warning the mistakes.

Reduction of time of feedback also gives effect. Firstly, the employee ceases to make mistakes and, secondly, the already defective product doesn't receive the additional resources.

Certification of processes. The process is considered to be certified if all necessary procedures are made, documentation, teaching programs and training methods of personnel, methods of measures' realization, control and measuring equipment and software applications of rhythm of the production process are present. All that guarantees that the process can produce high quality products even in extremely busy working mode. With such training the projection of the product and process is completed.

But this does not mean that the process has reached the optimum level or rule out the possibility of failures. One of the most effective measures that ensure the transition of the organization from the control orientation to the concept of preventing errors is a systematic certification of the process.

Certification also includes:

- 1) certification of each transaction of the process;
- 2) treatment of the trial consignments;
- 3) independent verification of the process.

Certification of operation includes the availabilities of:

1. *Documentation that provides the employee with the necessary information and the previously accumulated knowledge*, with the help of which he performs his work. An important seems easy to understand documentation.
2. *Test and technological equipment*, which significantly affects the quality and productivity of work. Certification of equipment helps to determine its ability to perform the given operation and be in working order.
3. *Requirements for the operation*. At this stage of certification the support systems of each operation are evaluated for correspondence.
4. *Acceptability of the received results*. The first three components of certification activity achieved such a level that the acceptability of the received results can be guaranteed on a permanent basis.

Treatment of the trial consignments involves the evaluation of the effectiveness of technological process including determination of its continuity, effectiveness and scope of products that is produced.

Independent verification of the process involves a detailed check. The group of verification, led by the head of the group of improving the process include, for example, representatives of the design department, manufacturing department, product quality assurance department and sales department that do not relate directly to the process. This group evaluates the process condition of and clear up the following:

1. Is it possible to check the product manufacturability and stability of the process?
2. Is the appointment of the process understood in the right way and does all necessary documentation for it exist?
3. Are the problems of the project that are specific to previous projects considered and eliminated?
4. Will the documentation on new production provide the increase of its reliability and quality in comparison with the previously produced products?
5. Is the schedule of production program realistic, and is the allocation of funds for equipment from all departments provided?
6. Are there serious technical problems that impede implementation of the program or the application of technologies?
7. Are the certification and attestation made in accordance with the proposed requirements and were all the significant problems found?
8. Does the system of measurements and feedback work effectively?
9. Are the final products up to the requirements of consumers?

After evaluation, the members of the checking group organize a joint meeting with the group of improving the process where they report about the received results. These results are documented in a report that is prepared by the testing group. After that the group of process development

determines the corrective measures, which provide the solutions of the problem contained in the report.

Benefits and advantages of the groups of improving the process are the follows: 1) realization of complex cause and effect analysis is provided, 2) being highly qualified, members of the group do not require additional training, 3) as the group is aware of the characteristics and relationships of the process, decisions made by the group can lead to a significant increase of the overall economic efficiency, 4) there are made connections between functional departments, that are united by common goals, 5) effective reduction of processing waste and costs is provided, 6) taking part in the process treatment, the group can prevent problems, 7) members of the group get acquainted with the general principles of economic activity of organization.

Disadvantages: 1) work in a group takes a great part of the time of experienced employees that often affects the performance of others 2) time of the workers is not always used effectively when considering the problem that does not require participation of all members.

The task force is formed by senior management when there appears a serious problem that requires immediate decision because it can stop the activities of the organization, or lead to shutdown of the enterprise. The group includes highly qualified professionals, selected for study and solution of concrete problems. As a rule, they are temporarily exempted from basic work in order to serve the duties of the members of the target group.

The task force is responsible for operational realization of decision and treatment of the plan of the final decision of problem solution. As a rule, senior management receives daily reports on the working progress and possible solutions are discussed openly with the leadership to their final evaluation.

Benefits and advantages: 1) studying of the concrete problem by the highly qualified professionals, 2) removal of members of the task force of the other responsibilities, 3) the operative solution of the problem, 4) close collaboration of members of the task force with the company employees.

Disadvantages: 1) very busy schedule of work, 2) usually, the final decision is carried out not by the members of the task force.

9.7. Involvement of suppliers in the process of improving the products quality

Competition of suppliers. For a long time, companies in developed countries in their activities were guided to increase the number of suppliers. The advantages of this approach were based on competition of suppliers, ensuring the success of the negotiations about determination of prices and delivery terms. The large number of suppliers offers more choices in that case if one of them has some difficulties relating to delivery terms, quality of products. In addition, it allows solving problems of increasing volume of production, which are not provided for the current production plan.

But the benefits of a large number of suppliers are unjustifiably expensive. The number of employees involved in placing and tracking of orders, and the number of errors that are permitted, are directly depend on the number of suppliers.

That is why the need to reduce the number of suppliers is conditioned to the following circumstance. If a company is focused on producing of high products quality, it lays so high claims to suppliers that are forced to limit their number because of the shortage of professionals in the field of quality, dealing with deliveries. This is especially characteristic of productions with the latest technology that produce complicated components, and also the areas of high technology services.

Besides, the continued growth of quality requirements orients the necessity of continued management of production processes by suppliers. This determines the need of active partnership relations between suppliers and consumers for the entire period of cooperation and reduction of their number.

Long-term contracts. If it is necessary to produce high products quality for a long period of time supplier and consumer are interested in establishing long-term contracts. The supplier obviously needs to establish such contracts. To ensure production of high quality the supplier should make quite a considerable investment.

Suppliers should not save money on a creation of a modern quality management system. The purpose of long-term contracts with suppliers is to create a through controlled management process at your enterprise and the enterprise that supplies you with materials and component products.

But sometimes it may seem that the conclusion of long-term contracts promises the benefits for supplier and is a hindrance to the customer. We can not but agree that long-term contracts exclude the possibility of conducting free regular talks, but by their conclusion the customer also has certain advantages.

Long-term contracts allow the customer to save money on a re-negotiation, re-equipping, re-teaching of staff. The conclusion of such contracts also allows the customer to participate in the development of new products in the early stages of its design. This allows the customer to become acquainted with the possibilities and experience of suppliers and in time include necessary changes to the project, but also allows the supplier to learn in time the requirements for the final production process, and to start working in time on implementations of orders, thus ensuring reduction of terms of production of new product.

Seminars for suppliers. Seminars for suppliers allow organizing meetings of representatives of the customer and supplier on a regular basis. It is reasonable to make seminars with various suppliers. Questions and problems arising in the different suppliers and are discussed in the open discussion, are considered more effective by collective participation.

Contents of seminars should reflect all important business and technical information that is not clearly reflected in the contracts and engineering calculations. The agenda of the seminars may include questions related to changing trade conditions or production plans, new specifications, advances in methods of measuring, changes in the principles of control of input materials or methods of inventory management, new principles of control of the manufacturing process and activities of suppliers. The frequency of seminars depends on the complexity and dynamics of the used technologies. Seminars should not be conducted in the same place. The invitation of suppliers to the customer's enterprise allows them to see the production line and get acquainted with the terms in which component parts which are made by them are operated. It certainly contributes to a better understanding of customer requirements. Moreover, during seminars at the customer's enterprise the suppliers are given the opportunity to take a closer look with almost all the employees of the customer regardless of their positions. It is recommended to make periodically seminars there where some enterprises of potential suppliers are concentrated. The visits to suppliers' companies allow customer to become acquainted with their working conditions. However, the most effective solution is alternately conducting of seminars at the customer's and suppliers' enterprises.

Control of suppliers by customers. Any company that has signed a contract to supply products, is familiar with the activities of supplier's controllers, which being the representatives of the customer, verify the quality of supplied products, and process control system at the supplier's enterprise.

Identifying the problems directly at the supplier's enterprise warns the supply the customer with production of poor quality and gives the supplier an opportunity to take the necessary corrective measures in advance.

Optimal load of controllers of the customer may be limited by the control of process management system and carrying out the actual control in the volume that allows ascertaining that the system management process is working effectively. For this the provider must have all documentation and submit to the controller clear checklist, similar in its objectivity and informative to the acceptance control plans.

In industrialized countries, many firms providing an independent control were extended. Services provided by such firms, are beneficial for the customer, especially when the supplier's enterprises are removed from the provider's enterprises, or when a staff controller is not needed checking the supplier's enterprises. Independent controller of supplier provides an informal check of documentation and procedures, noting the existence of unclear or ambiguous states that do not meet the requirements accepted in the appropriate fields.

Survey of supplier by customer is a systematic check of the supplier's company and its technical capabilities. Of course each representative of testing group has a checklist that allows carrying out assessment of each production operation of provider according to the established figures.

The customer must provide the supplier with the information about the quality of his work. Such information must be timely, clear, consistent and be sent to specialists of supplier who are interested in it. Timeliness of providing of information depends on the degree of its importance. The notice of detection of defective products must be sent immediately or at least a few hours after discovery of the defect. There is nothing objectionable in the early warning of the supplier of a possible problem, which degree of seriousness is not established by the customer. Such warning will allow the supplier to verify timely the process and stop production if the problem really exists.

Equally important is regular submission of information about the quality of work of the supplier. Even those suppliers, whose products meet the requirements of 100%, must regularly provide information that indicates a satisfactory level of quality of products manufactured by them. Reports containing such information must be published at least monthly.

Reports should include clear information, especially in detecting defects. Information such as number of deliveries, accurate indication of the volume of supply and characteristics of defects is very important for the supplier using the appropriate measures. For the customer the information, including the controller name that has identified the problem, description of equipment that was used, methods of control and final distribution of products is also important.

Questions for self-check:

1. The concept of quality and range of individual quality indices.
2. Methods for determining the numerical values of quality indices and its characteristics.
3. Nomenclature of the reliability indices and its features.
4. Figures of technological products and their content.
5. Figures of standardization and unification, and their calculations.
6. Evaluating method of quality assessment and its characteristics.
7. Methods of determination ponderability factors and their contents.
8. The calculations of economic benefit, taking into account the quality of the product.
9. Calculations of social effect taking into account the quality of the product.

10. Which categories and types of standards do you know?
11. What is the procedure of development, adoption and application of standards?
12. The organizational structure and main statutes of the State system of certification.
13. Functions of product certification bodies and quality systems in the UkrSEPRO system.
14. Procedures for Certification of production in the UkrSEPRO system.
15. The role of senior management in quality management system.
16. Groups of the improvement of the activities of the departments and their characteristics.
17. Quality circles, task forces and their characteristics.
18. Groups improving the processes in quality management.
19. The recognition and reward of the staff for the improving of the product quality.
20. Participation of suppliers in improving product quality.

CHAPTER 10. INVESTMENT

Objective: study of the essential characteristics of economic, managerial and legal relations systems inside the investment process, which are based on current legislation and standard acts that regulate investment objects operations and civil legal contracts for gaining welcome commercial or social results.

Subject: the content of investments modern study and realization of investment processes in the market.

Content modules: logically ordered study of investment basic notions. Tools for investment process organization. The essentials and theoretic principles of investment basic types, in particular - financial, factual, innovative and foreign; government control methods of investing. Evaluation of market investment decisions. Expediency of investment projects realization under uncertainty. Methods of financing.

10.1. Economic essence of investments and their importance in the development of actual economy

Multiple definitions of term “investment” in domestic and foreign literature may refer to the complexity of this economic category and its essential characteristics.

“Investment” – from Latin *invest* - is “to inlay; to put in”.

Investments – all kinds of property and intellectual values put in an entrepreneurial (and other) activity for gaining profitable returns or achieving certain social effect.

Property and intellectual values put in an entrepreneurial activity includes:

- assets, specific bank deposits, shares, securities;
- personal and real estate (houses, facility buildings) and other wealth;
- interests of copyright, experience and other wealth;
- technological, technical, commercial and other attainments in the form of technical documentation, skills and know-how’s essential for organization of production, but unpatented;
- faculty for use of land, water, resources, houses, buildings, facilities and other interests and values.

According to contemporary science investment economic category is the initial one, because it serves a basis for hierarchy of the other categories and reflects capital of society reproduction by investing the capital to economy spheres inside and outside the country.

It should be noted, that till January 1, 2000 notions “capital placement” and “capital investment” both existed for characterizing real estate investments. Capital placement were taken as building-and-assembly job costs, purchase of buildings and their parts, equipment, instrument and inventory, as well as other capital constructions. The notion “capital investments” was introduced by Law of Ukraine On Enterprise Profit Tax and was used in tax accounting sphere. So capital investments were considered as “economic operations for purchasing buildings, installations, immovable estates and other depreciable basic funds and nonmaterial assets.

After January 1, 2000 the notions “capital placement” and “capital investment” were both replaced by **capital investment**, which depending on economic point means capital spending for creating or purchasing corporeal and incorporeal for accretion of the capital.

Investments are made on enterprises in different forms. For better accounting, analyzing and planning investments are classified and grouped according to certain characteristics (Tab. 10.1).

Real investments – investments in industrial funds (fixed and revolving), generally in material (houses, buildings, equipment) and non-material assets (patents, licenses, know-hows etc.).

Financial investments – investments of funds in different financial instrument, in securities mainly.

Classification of investments

Classification	Types
Object of investment	- real - financial - innovation - intellectual
Form of property	- state - private - foreign
Investment period	- short-term - medium-term - long-term
Investment source	- investor's own funds - borrowings - involved
Regional mark	- home - foreign
Abilities of enterprise operation	- direct - portfolio

Innovation investment – investments in innovations, mostly in non-material assets that facilitate the development of technological change and successful opposition to market competitors.

Intellectual investments – investments in the potential of the society, in objects of intellectual property of copyright for industrial standards and useful models.

10.2. Structure of investment market and subjects of investment activity

Term “investment market” has a lot of definitions of in economic literature. Firstly, they all are based on the notion of “a market” – economic relations of purchase and sales. The relations of selling and purchasing goods and services, capital and labor may be considered to be called a market only when there are such categories as competition equilibration, supply and demand. This market is formed by a subject – an investor, an entrepreneur that owns his investment resources and in the same time has a demand for additional investment resources for supplying its need.

There are a lot of difficulties in the settlement of an effective goods market. The main reason is that a consumer and a producer are interdependent and belong to the same system and have his personal concerns. The consumer demands a right for choice of goods and services. The producer has a limited free choice of necessary components for effective production (e.g. purchasing credit resources.)

According to K. Marks labor and capital are the necessary factors of production. Thereby market relations presuppose existence of a market, where supply of these factors must not be less than the demand. These are labor and capital markets.

Thus, an investment market corresponds to circumstances of a complex structure and a specific economic situation where investors, producers, investment goods owners, intermediaries and bodies of state power interact to each other (Fig. 10.1).

There are different definitions of the term “investment market” in modern economic literature. Particularly this term is used to describe a market of investment wares (building materials of all kinds and active parts of basic producing funds) and investment services (building and assembly jobs). Foreign literature describes an investment market as a stock one, where securities are the major investment fund. I.A.Blank in his work “Investment management” describes an investment market as a complex of relations between a seller and a customer of investment goods-and-services and all forms of investment objects.

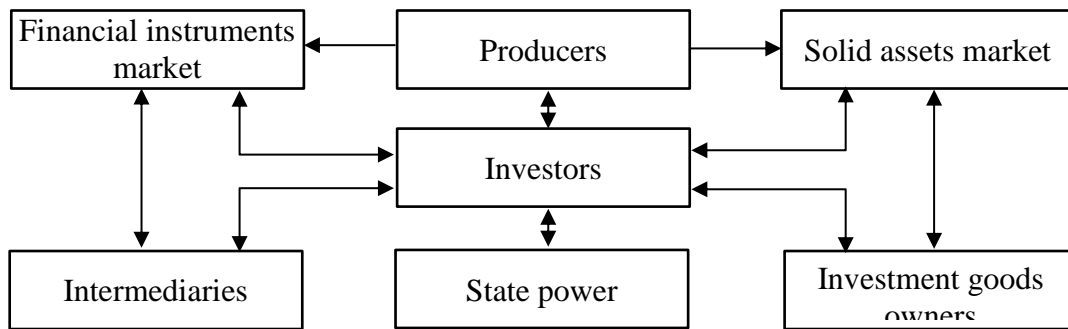


Figure 10.1 – Investment market structure

There are different definitions of the term investment market in modern economic literature. Particularly this term is used to describe a market of investment wares (building materials of all kinds and active parts of basic producing funds) and investment services (building and assembly jobs). Foreign literature describes an investment market as a stock one, where securities are the major investment fund. I.A.Blank in his work “Investment management” describes an investment market as a complex of relations between a seller and a customer of investment goods-and-services and all forms of investment objects.

A.P.Duka by-turn singles out solid assets market (real investments market) and financial instruments market.

Solid assets market (real investment market) provides goods and services: immovable, ground for development (mortgage market); equipments, building materials, research, engineering, building and assembly and other services (contract market), know-how’s, engineering services (intellectual values market).

Real assets market is divided into:

- mortgage market – immovable and grounds for development buy-and-sell economic relations; that is a sum of credit operations that serve market of immovable;
- contact market – buy-and-sell economic relations of building services;
- intellectual market – buy-and-sell economic relations of new technologies, licenses, patents for inventions and knowledge findings, know-how’s and engineering services;
- labor market – buy-and-sell economic relations of labor force. The labor force (hired labor) is an investment resource in a labor market (labor force market).

Economic literature describes a financial resources market also as financial market of loan capital which offers financial resources. Financial resources market is an economic buy-and-sell relation of capital. It is a capital demand-and-supply based mechanism that redistributes a capital among creditors and debtors with the help of mediators.

Financial instruments market is divided into:

- money market (market of securities, certificates of indebtedness for one year discharge);
- capital market (long-term securities and corporate safety stock);
- credit market (debt issues for long-term loans).

In reality a financial resource market is a sum of financial institutions that are mediators in the process of directing flows of funds from proprietors to debtors, and back. The financial resources market’s main task is to transform the temporarily surplus funds (government, legal and natural person’s money capitals) into a loan capital according to the conditions of an agreement.

It should also be noted that subjects of investment activity are the main participants of an investment market. They realize the investment project and the investment demand, entering specific relationships with mediating investment markets.

Investment activity subjects include investors and investment participants which make the investing. This division is made according to the function which the subjects perform. And that is why both these roles may be performed by one subject. Citizens, legal persons and the state of the Ukraine and foreign countries may be investors or participants.

A state government body, a natural/legal person of the Ukraine and other countries may be a subject of investment activity.

An investor is a main investment subject that makes investment decisions of investing own, borrowed or attracted property and intellectual values into the objects of investment to gain benefit of the object exploitation. A fund market participant with free funds that endeavors to invest the funds for benefit (interest) is also called an investor. An investor disclaims the usage of his funds and satisfying his general needs in order to do this later but in greater scale by investing his resources in investment objects. He must possess, use and dispose the investment objects and the results of the investment, including re-investments and trading in the Ukraine.

According to the classification there are several types of investors (Tab.10.2).

Table 10.2

Types of investors

Classification	Feature
<i>According to guidelines of main economic activity</i>	
1. Individual investor	An individual: residents or non-residents that made investments for their economic activity development. E.g. 47 million Americans in the USA are stock owners
2. Investment banker	Usually, a legal person – a financial mediator that accumulate individual investors' funds and perform investment activity of operating the capital mostly
<i>According to investment purposes</i>	
3. Strategic investor	A subject of investment activity, that wants to own the controlling stock (a part of an authorized capital) for gaining real control of the enterprise
4. Portfolio investor	A subject of investment activity which invests the capital into different investment objects (instruments) with the only goal to gain investment income. Such investor does not participate in real strategic enterprise (issuer) operations.
<i>According to desired investment effect</i>	
5. Running income oriented investor	gains investment income by short-term investments and some long-term investment instruments that provide regular income
6. Long-term capital appreciation oriented investor	invest the capital mostly in real operation assets of an enterprise and long-term financial investment instruments
7. Non-economic investment effect oriented investor	invest the capital in objects of investment to reach some social, ecological and other goals except for investment incomes
<i>According to adventure acceptance</i>	
8. Risk-averse investor	a subject of investment activity which avoid making investments of medium and high adventure rate
9. Risk-neutral investor	a subject of investment activity which takes investment risks only if it will be compensated by an additional investment income
10. Risk-seeking investor	a subject of investment activity which takes investment risks even if it won't be compensated by an additional investment income
<i>According to investment behavior of choosing investments by adventure-to-income ratio</i>	
11. Conservative investor	a subject of investment activity which invests capital in objects of minimized investment risk and ratable expected income
12. Moderate investor	a subject of investment activity which invests capital in objects of market average risk-to-income rate
13. Aggressive investor	a subject of investment activity which invests capital in objects of maximized investment income in spite of attendant high risks

10.3. Basic funding sources of investment activity

Financial resources – the funds that carves out the part of joint social product which may be directed to socioeconomic general development without troubling the commensurability of social production.

Basic funding sources of investment activity may be classified into:

1. *Private*:
 - undivided income;
 - amortization;
 - realization income net;
 - allowance assets return;
 - authorized capital.
2. *Loan*:
 - long-term bank loan;
 - purpose state credit.
3. *Involved*:
 - paper issue;
 - direct investments;
 - government subsidy.

By the current legislation funding sources of investment are:

- own financial resources;
- borrowed financial resources;
- sale of securities income, work collective members' contributions;
- funds of state and local budgets;
- funds of foreign investors.

Profits – the main form of enterprise net gain that forms the product added cost. It is an amount of cash proceeds which is the margin between the selling price and total cost of products (work, services). Net gain (after-tax profit) lefts when all payments to the state budget (including taxes) and other enterprises are made. It may be used in capital investments of industrial or social types, or in nature-conservative measures.

Amortization assignment (as a refund part) is another significant investment funding source. The compensation fund as a part of a social total product consists of two elements that compensate the basic and discount capitals (material costs) spent during production process.

In world practice sinking deductions are considered to be the main investment funding sources. Amortization in the Ukraine does not serve its basic goal – reproducing the production assets. Instead it is used to support the financial state of an enterprise.

Let's study the major advantages and disadvantages of investment funding sources (Tab. 10.3).

Table 10.3

Advantages and disadvantages of investment funding sources

Funding source	Disadvantages	Advantages
1. Internal		
Undivided income		quick operability;
Amortization		tax concession
Realization income net		monitoring high rate
Allowance assets return	capital freezing	
Authorized capital	additional expenses for consulting and audit	

Table 10.3 (continued)

2. External		
Foreign		
Direct investments		higher inflation protection
Portfolio investments		high degree of control
Technical assistance (grants)		state-protected
Foreign bank loans	long and complicate process of attraction; want for guarantee	
International financial institutes loan	high cost	
Domestic:		
Long-term bank credit		financial leverage effect
State subsidies		shorter projects pull date; available external control
Paper issue		distribution of risk; need for pledge
Direct investments	debt bondage	
Investment leasing	probable estate loss (a part)	
State purpose loan	partial constraint of self-determination; management descent	

There are different means of investment resources attraction. During last years western countries have been practicing both traditional (stocking, debt finance, credit, leasehold etc.) and new means, such as franchise, leasing, forfeiting, venture financing, selling at alias (Tab. 10.4).

Table 10.4

Basic means of investment capital attraction

1. Stocking	- corporation; - self-financing; - trust; - venture firms; - purchase of average share package	4. Lease	- operational lease; - financial leasing; - leaseback; - hiring; - rating; - selling
2. Debt finance	- credit; - factoring; - forfeiting; - mortgage credit; - governmental organization loan; - foreign credit; - loan note (debt instrument);	5. Concessional financing	- state preferential credit; - ensuring; - investment tax credit; - interest-free credit
3. Consortium based financing	- joint enterprises; - alliances; - franchise; - licensing; - financial engineering; - accounting;	6. Backing	- dotations; - grants; - subvention; - sponsorship; - donorship

When stocking the capital is attracted through common and privileged shares among legal and natural persons.

Via stocking money capital is attracted with other tangible and intangible assets. There are open and closed joint-stock companies. An enterprise (a company changed into stock-company or corporation) creates the corporate equity for financing investments.

During privatizing process in Ukraine appeared such enterprise-denationalization form as corporationing. According to the Decree of the President **corporationing** means a change of

governmental organization into a joint-stock one with government 100% stock custody; later the stock is sold by degrees to the employees (in the first place), to legal and natural persons and to other countries.

Self-financing – the financial mean when a company finances its operations at the expense of its net gain (not distributed among the stockholders).

There are two types of financing:

- non- credited;
- with credit involved; that provides tax advantages for both debtor and creditor.

Trust is the method of derivative profit gain by investing the primary investment income in stock.

Trust predetermines such operations:

- attracting the means of corporation members and common subjects;
- creating a production or business enterprise of collective or full corporation type at the expenses of gained means;
- after gaining incomes of the enterprise - to purchase high-profitable and quick stock of other issuers: banks, joint-stock companies, insurance and investment companies.

Venture capital (risk investment) is used for rapid covering the attracted assets. Venture capital is created by producing new stock for new spheres of activity.

Average holding of stock – investor's holding of stock that is less than 50% of the stock capital. Small enterprises are apt to use it, because they are interested in financing for further development. This method is used mostly in science-consuming industry, in cases when small companies help bigger ones to produce their goods by producing separate units, components or intermediate products for them.

Forfeiting – a form of crediting (bank or other loans) an exporter by purchasing his debt issues with certain discount (for example, promissory or transfer notes without right of regress to the seller). As a rule forfeiting is used in case of big capital assets exporting – machines or equipment with long delay of payments.

Mortgage loan – a collateral loan in security for immovable property (mortgage). Dwelling houses, land, industrial facilities may serve as a mortgage to taking up a mortgage loan. A mortgage contract must be notarized and registered in land records book (regional governing bodies).

Government credit is used for initiating an investment activity. In Ukraine this method of financing was firstly used in autumn of 1992. Long-term government credits are issued at the expense of the centralized resources of the national bank through business banks.

Strategic alliance – a unity of two or more organizations that jointly command all incomes and financial resources, but share the risks for reaching certain strategic aims and goals (the goals of both may not coincide).

Franchise – a case when a firm (franchisor) sells or assigns a license to other firm (franchisee) so it acquires a right to do business or actualize production (work or services) using a trademark of the franchisor. Strict quality and technique observance is an indispensable condition for the franchisee. As a rule, the franchisor is a leading firm of good reputation that wants to unite its high-technologies and know-how with the capital of the franchisee for gaining certain interest.

Licensing – a case when a company transfers its rights for production goods or services to other company. Transfers of shareholdings, techniques, trademarks, scientific works, computer programs and other intellectual property are subjects to licensing. A license is assigned on certain period for specific payment.

Financial engineering does not mean a direct method of capital attracting. It is a variant of engineering consulting service that facilitates and intensifies the investment process; it is a mean for increasing the effectiveness of a laid-down capital.

Accounting has two notions in western terminology:

- bookkeeping, analysis of production activity, financial reporting;

- a system of collection and processing the financial information of a company (establishment), that shows the financial performance of this company.

Lease means a possession and use of property (financial assets) for a specific period. An enterprise, buildings, facilities, accommodation, natural resources and land may be an object of a lease.

Leasing is a long-term lease for some types of machines, equipment, production complexes and other property. Three or more contracting parties may assist a lease contract:

- supplier (equipment producer);
- lessor (a bank or a lease company);
- lessee (leaseholder).

Leaseback is a beneficial lease for a leaseholder, because he attracts the sale proceeds and may further use the property. As a rule, machines and equipment, that promptly become obsolescence and depreciates physically, become operational lease objects. The lessor provides maintenance and repair works, and receives the amortized deduction from the lessee.

Selling is an individual lease type that presupposes a two-way bailment for hire. In this case the owner assigns the right of use and disposal of his property to another company. The lessor remains the holder of property; he receives specific payment and reserves the right to get back his property on demand. In contrast to leasing, selling presupposes that the lessee does not own property he leased but just uses it.

To **concessional financing** belong: direct loans, guaranteed loans, project grants, share participation, direct subsidies and insurance.

Backing means non-repayable financing; that is providing funds and assets which must not be returned or paid back. Types of backing: dotation, grant, subvention, sponsorship and donorship.

Dotation – a type of backing which presupposes that government or local state authorities give support to specific projects and social programs or environmental and resource-saving technologies. The dotation backs only a part of investment project and it makes no more than 50% of total investment. In some cases the government controls the designated purpose and stipulates that the rest part must be invested by private capital.

Grant is close to a dotation. The major difference is that a project may be fully backed by a grant. A grant is a subject of audit and presupposes strict accountancy. Grants are often considered a humanitarian aid.

Subvention is given by municipal administration (as opposed to dotation and grant). It has special-purpose assignment. Municipal administration always initiates subventions.

Sponsorship and donorship means backing investment projects by natural and legal persons or by a charitable organization. Asea Broun Boveri foundation (\$600 mil) and The Open Society Institute (George Soros foundation) are examples of sponsorship in the Ukraine.

10.4. The use of discounting activity rate of investment efficiency

In economic practice such activity rates as current cost, return index, internal rate of return and pay-off period are widely used (Tab. 10.5).

The peculiarity of their evaluation and use is that the time aspect is considered. This gives an opportunity to study the probable economic performances more accurate and square; these rates may be used during medium- and long-term investment projects evaluations.

Table 10.5

Project valuation methods and their descriptions

Project valuation methods	Description
<i>Valuation methods used under environmental certainty</i>	
Net present value method (NPV)	Cash flows discounting at interest that corresponds to expected average loan interest rate on financial market
Investment payback period (PP)	Defining the period of time required for the return of an investment to match the sum of the original investment

Internal rate of return method (<i>IRR</i>)	Defining a discount rate that makes the net present value from a particular investment equal to zero
Profitability index method (<i>PI</i>) and average rate of return (<i>ARR</i>)	Defining the ratio of payoff to investment of a proposed project (<i>PI</i>); defining the return, generated from net income of the investment (<i>ARR</i>)
<i>Valuation methods used under environmental uncertainty</i>	
Best conditions method	Net value method for environmental uncertainty. Risk-adjusted discount rate
Capital asset pricing model (<i>CAPM</i>)	General evaluation of probable portfolio profitability. Limitations: the model is calculated for one investment period; no mechanisms of risk prediction and investment profitability prediction
Arbitrage estimation theory	Unable to evaluate the investment portfolio profitability; anticipates market risk and few more factors (industrial production acceleration, anticipated inflation acceleration, flat inflation etc.) that affect the profitability of assets
Weighted average cost of capital (<i>WACC</i>)	Investment project is accepted if the expected return is equal or surpass the capital value of a firm. Disadvantages: does not take account of divergence of different projects' risk rates
Current cost net value conception (discounting method)	It is conceded, that cash flows have shape of a linear function of profitability of quick assets

Let's study the calculation methods of discount rates and their usage at evaluation of investment projects.

1. *Net present value* – total present value of incomes with the exception of total present value of costs. Thereby the economic essence of investment decisions evaluation by *NPV* consists in collation of current rate of costs and income: investment is advantageous if $NPV > 0$, and disadvantageous when $NPV < 0$.

The net present value of a random cash flow consistency may be calculated by the following formula:

$$NPV = -C_0 + \sum \frac{C_n}{(1+r)^n}, \quad (10.1)$$

Where:

C_0 – investment size, monetary unit;

C_n – cash flow, monetary unit;

r – interest rate, %;

n – number of years.

Net cash flow at the point t is a remainder of incomes acceleration of project realization and the respective costs. The net present value has inversely proportional relation to the discount rates. Indeed the bigger value r is, the lesser is the current cost of expected incomes.

In spite of the simplicity and peculiar transparency, the net present value method has specific disadvantages:

- non-relative nature;
- probable divergence of incomes and cost discount rates;
- uncertainty in future cash flows evaluation.

On the other hand, the index of *NPV* allows to take into account shifting of money value and suitable for the calculation of investments' efficiency regardless to the kind of series of financial streams which are generated by a project (annuity, mixed, etc.).

Example. Define the indexes of net present value of two projects. Educe, which investment project is more profitable on condition that the rate to the percent is a) 8%, b) 15%, n = 3 years.

Basic data

Project	Dimension of initial investment of capital, mln. hryvna	Cash flows mln. hryvna		
		1-year	2- year	3- year
A	- 60	35	48	70
B	- 100	75	20	90

Solution

Calculating net present value:

$$a) \quad NPV_A = -60 + \frac{35}{1+0,08} + \frac{48}{(1+0,08)^2} + \frac{70}{(1+0,08)^3} = 69,128 \text{ (mln. hryvna)}$$

$$b) \quad NPV_A = -60 + \frac{35}{1+0,15} + \frac{48}{(1+0,15)^2} + \frac{70}{(1+0,15)^3} = 52,756 \text{ (mln. hryvna)}$$

$$a) \quad NPV_B = -100 + \frac{75}{1+0,08} + \frac{20}{(1+0,08)^2} + \frac{90}{(1+0,08)^3} = 58,04 \text{ (mln. hryvna)}$$

$$b) \quad NPV_B = -100 + \frac{75}{1+0,15} + \frac{20}{(1+0,15)^2} + \frac{90}{(1+0,15)^3} = 39,517 \text{ (mln. hryvna)}$$

Answer:

- 1) on condition of 8% and 15% rate after the index of net present cost project A is more profitable;
- 2) on condition of 8% and 15% rate after the index of mark profitability project A is more profitable.

2. Under the internal norm of profitability of investments one understand such value of discount rate at which the today's cost of charges equals the today's cost of profits, id est such value of r, for what NPV = 0.

The criterion of internal norm of profitability consists in collation of IRR and profitability of alternative investment decisions : a project is considered to be profitable, if $IRR > r$.

The index of internal norm of profitableness (IRR) is determined after a formula:

$$IRR = r_1 + \frac{NPV_1}{NPV_1 - NPV_2} \cdot (r_2 - r_1), \quad (10.2)$$

Where:

r1, r2 of - cost of money, %;

NPV1 is a value of net present cost at r1, monetary unit.;

NPV2 is a value of net present cost at r2, monetary unit.

But also this method has the defects:

- it is impossible to assert that the rate of discount (percent of profitability) does not change during realization of all project through different factors (economic situation, influence of scientific and technical progress, change of foreign exchange and money-and-credit markets and so on);
- through the noted factors it is impossible to assert that the planned discount rate will be attained;
- reinvestment is assumed after the rate of IRR.

Example. Define the index of internal norm of project profitableness which is counted on 3 years. Make a conclusion.

Basic data

Cash flows in years, th. UAH.			
0 (seed money)	1	2	3
-1100	700	400	100

Solution

Let's take $r_1 = 2\%$ and $r_2 = 20\%$

$$NPV_1 = -1100 + \frac{700}{1+0,02} + \frac{400}{(1+0,02)^2} + \frac{100}{(1+0,02)^3} = 64,97 \text{ th. UAH.}$$

$$NPV_2 = -1100 + \frac{700}{1+0,2} + \frac{400}{(1+0,2)^2} + \frac{100}{(1+0,2)^3} = -181,02 \text{ th. UAH.}$$

$$IRR = 2\% + \frac{64,97}{64,97 - (-181,02)} \cdot (20\% - 2\%) = 6,75\%.$$

Answer: IRR = of 6,75% is such maximum value of profitableness, below which during the realization of project going down is impossible.

3. A method of efficiency index determination is logical continuation of method of net present value. Index "index of profitability" (PI), unlike the index of NPV, is relative and determined as attitude of the discounted result of investment project (profit) toward the discounted charges.

The index of profitability is determined after a formula:

$$PI = \frac{\text{Discounted profit}}{\text{Discounted costs}},$$

$$PI = \frac{\sum \frac{C_n}{(1+r)^n}}{|-C_0|}. \quad (10.3)$$

Size of criterion of $PI > 1$, testifies about the expedience of project realization, thus the greater PI for unit, the greater investment attractiveness of project. In other words, the discounted profits from project realization at PI times excel the discounted investment charges.

Example.

Basic data

Cash flows in years, th. UAH.				
1	2	3	4	5
-123	-25	87	78	32

Solution

$$PI = \frac{\frac{56}{(1+0,1)^3} + \frac{65}{(1+0,1)^4} + \frac{80}{(1+0,1)^5}}{\frac{110}{1+0,1} + \frac{65}{(1+0,1)^2}} = 0,885.$$

Answer: This project after the index of profitability is unacceptable, as $PI < 1$.

4. A period of recoupment of project (PP) is a period of time from a moment beginning of its realization to the moment of exploitation of object at which profits begin to equal the charges of capital.

At the use of this criterion it is possible to distinguish such defects:

- influence of profits of the last periods is not taken into account, id est those which can be got after the term of project recoupment;
- the recoupment term index can not be used for determination of project profitability .

There exist the simple and discounted periods of recoupment.

The discounted period of recoupment is the widespread index of investment projects efficiency. It shows by itself the period of time, for which the discounted profits will cover the size of the discounted investment charges according to the project.

At the simple period of recoupment profits and charges according to the project are not discounted.

Example. Estimate acceptability of project after the index "simple period of recoupment", using such data here.

Years	1	2	3	4	5
Cash flows, th.UAH.	-80	-15	-10	60	70

Solution

For index calculation the simple period of recoupment at first one should define total charges. And then add profits after years.

Charges = - 80 - 15 - 10 = - 105 th. UAH.

- 105 + 60 = - 45 - 1 th;

PP = 1 + 45 / 70 = 1,64.

Answer: After an index simple period of project recoupment is acceptable.

10.5. Models of determination of the borrower insolvency

A prognosis of possible insolvency of potential borrower is an old dream of creditors. For this reason with appearance of computers insolvency became the article of serious statistical researches.

Most successful researches in this sphere were executed by means of incremental discriminatory analysis. For example, the model of Altman was built by this method on a selection from 66 companies - 33 successful and 33 bankrupts.

The first version of model contained 22 probably significant coefficients, purchased from data of the financial reporting. A coefficient which had the least statistical meaningfulness was cast aside, whereupon construction of model and analysis of statistical meaningfulness of coefficients recurred. When the amount of coefficients diminished from five to four, statistical authenticity of model went down sharply, that had compelled Altman to draw a conclusion that a variant with five coefficients is predominant.

The developers of similar models consider that they should be used as an additional instrument of analysis. Let's consider some variants:

- data filtration of potential borrowers for the estimation of comparative risk of their insolvency;
- ground of recommendations to the borrowers or terms on which they can get credit;
- a construction of "trajectory" of borrower from data of accounting for a few previous periods (does the risk of insolvency grow or diminishes?)

Altman's model was built on a selection from 66 companies - 33 successful and 33 bankrupts. The initial version of model contained 22 coefficients. The model foresees exactness at 95% of cases. General view of the model:

$$Z = 1,2A + 1,4B + 3,3C + 0,6D + 0,999E, \quad (10.4)$$

Where: $A = \frac{K_o}{A_c}$ (K_o – floating capital; A_c – combined assets) (10.5)

$$B = \frac{\Pi_{n.m.p}}{A_c} (\Pi_{n.m.p} - \text{retained earnings of past years}) \quad (10.6)$$

$$C = \frac{\Pi_{c.e.n}}{A_c} (\Pi_{c.e.n} - \text{an income to payment of percents and taxes}) \quad (10.7)$$

$$D = \frac{K_{p.a}}{B_{\bar{o}.n.\bar{o}.3}} (K_{p.a} - \text{market capitalization of operations});$$
$$B_{\bar{o}.n.\bar{o}.3} - (\text{overall balance cost of promissory}) \quad (10.8)$$

$$E = \frac{O_p}{A_c} (O_p - \text{volume of realization}) \quad (10.9)$$

At $Z < 2,675$ offensive of insolvency is unavoidable.

Fulmer's model. A middle size of the combined assets of firms in the Fulmer's selection is 455 thousand dollars. The initial version of model contained 40 coefficients. A model foresees exactness at 98% of cases on a year and at 81% of cases on two years forward. General view of the model:

$$H = 5,528 V1 + 0,212 V2 + 0,073 V3 + 1,270 V4 - 0,120 V5 +$$

$$+ 2,335 V_6 + 0,575 V_7 + 1,08V_8 + 0,894 V_9 - 6,075 \quad (10.10)$$

$$\text{Where: } V_1 V_I = \frac{\Pi_{H.M.P}}{A_c} (\Pi_{H.M.P} - \text{retained earnings of past years; } A_c - \text{combined assets}) \quad (10.11)$$

$$V_2 = \frac{O_p}{A_c} (O_p - \text{volume of realization}) \quad (10.12)$$

$$V_3 = \frac{\Pi_{c.n}}{A_c} (\Pi_{c.n} - \text{an income for payment of taxes}) \quad (10.13)$$

$$V_4 = \frac{\Pi_z}{3_n} (\Pi_z - \text{cash flow; } 3_n - \text{complete debt}) \quad (10.14)$$

$$V_5 = \frac{B}{A_c} (B - \text{debt}) \quad (10.15)$$

$$V_6 = \frac{\Pi_n}{A_c} (\Pi_n - \text{current liabilities}) \quad (10.16)$$

$$V_7 = \log(A_m) (A_m - \text{tangible assets}) \quad (10.17)$$

$$V_8 = \frac{K_o}{3_n} (K_o - \text{floating capital; } 3_n - \text{general liabilities}) \quad (10.18)$$

$$V_9 = \log \frac{\Pi_{c.e.n}}{B_e} (\Pi_{c.e.n} - \text{an income for payment of percents and taxes; } B_e - \text{paid percents}) \quad (10.19)$$

Offensive of solvency unavoidable, if $H < 0$.

Comparative analysis. Altman's model contains the index of market actions capitalization and, thus, can be applied only in relation to companies on the actions of which there exists a public market. The American company which aims to produce actions into a public appeal is under an obligation to have an annual volume of realization, not less than 15 million dollars. Taking into account that an appeal of assets in most industries of the American economy is within the limits of 0,9-1,9, the low-limit of assets of such firm folds about 8 million dollars.

Fulmer's model is built after a selection from far smallest firms (a middle size of assets is 455 thousand dollars) and does not contain the indexes of market capitalization.

10.6. Economic content of the foreign investement. Forms and methods of its involvment

Foreign investments play a considerable role in economic development of every country regardless of the level of its economic development.

Ponderability of foreign investments considerably grew in 80-90, when they were examine as one of the basic means of national economic integration to the world economy on the basis of transference of production capacities, transfer of currency, transmission of technologies, management experience and skills, innovations in a host country.

Today there exists a considerable number of theories about the foreign investment origin. Yet A.Smith, substantiating theses in relation to the actions of free market forces, marked that the free moving of capital between countries promoted it to general reduction of prices. Thus the export of capital results to its rising in a country, and import - to reduction of prices in a host country. Above problems of capital migration and finding out of its principal reasons worked practically all representatives of economic idea. In particular, it is representatives of neoclassical theory (1930-s), within the limits of which took place microeconomic analysis individual investor's behavior, who is oriented on the obtaining of larger income; neocensian's theory (1940-s), according to which macro economical analysis of reasons is done and export and import of capital is connected with balance of payments, volumes and rates of increase of national income, by the level of employment and so on

According to the theory "firm's development" income from investments was examined not as the purpose of investment activity of firm, but as the only one of increase tools. Within the limits

of theory of "international oligopoly " reason of investing was seen in the different norms of income in different countries. And the "value law modification" theory lead the origin of direct capital investments out from the mechanism of functioning of currency resources.

Determination of concept "foreign investments" is key for a legislator, as a circle of legal relationships is thus set concerning the settlement of ownership, possession and order rights. Acknowledging that or another person to be foreign investor, state acknowledges his right on perquisites and indemnity, that announced in Law "About the mode of foreign investment".

In world practice under foreign investments one understand investment abroad, which foresees certain control of investor at enterprise in which they invested.

Speaking about foreign investment, one should distinguish state and private investments.

State investments are loans, credits, which one state or group of the states give to another country. In this case the question is in relations the between states which are regulated by international agreements and to which the norms of international law are used to. Diagonal relations are also possible, when consortium (group) of private banks gives investment to the state.

Under private one understands investments, which are given by private firms, company or citizens of one country to the appropriate subjects of another country. Investment relations are so complex and many-sided, that the relations among states are closely connected with the relations between private. Such connection appears to a great extent, when investor passes his rights and duties to the state

There is even more elaborate structure of relations, when the financial obligations of state-debtor after it had got credits (for example, payment of percents) are satisfied due to the overall or partial cost of property rights of private investor in state-debtor (for example, grant of rights on development of natural resources).

Considerable part of general volume of foreign investments occupy foreign direct investment (FDI) - an investment of resources, which provides creation or expansion of constant participation in company, due to which the investor can exert control, managerial control of foreign investment above an entity selection and investment's realization. Thus, except financial resources such specific assets as managers competence and technical knowledge are transferred abroad.

Foreign investments on the territory of Ukraine can be carried out in form of:

- foreign currency which is acknowledged convertible by the National bank of Ukraine;
- currencies of Ukraine - at reinvestments in object of the primary investing or in any other objects of investing according to the legislation of Ukraine;
- on condition of payment of income tax (profits);
- any mobile and fixed property with property rights;
- actions, bonds, other securities, and also corporate rights (ownership rights on a stake (share) in charter fund of legal entity), created in accordance with a legislation of Ukraine or legislation of other countries), shown in convertible currency;
- money claims and rights on the requirements of implementation of contractual obligations, which guaranteed by the first-class banks and have value in converted currency, confirmed according to the laws (by procedures) of investing country or international commercial customs;
- any rights of intellectual property, which cost is in converted currency confirmed according to the laws (by procedures) of investor's country;
- rights on realization of economic activity, including. rights on using the bowels of the earth and use of natural resources, given according to the legislation or contracts, which cost in converted currency confirmed according to the laws (by procedures) of investor's country or international commercial customs;
- other values in accordance with the legislation of Ukraine.

Appearance of new forms and methods of foreign investments resulted, that some authors determine them "as direct international cooperation", instead of new forms of lines of foreign investments.

Today it is possible to determine considerable number of different way of entering world markets, which have been mainly transformed from such basic strategies of foreign market entry, that are put in Tab. 10.6.

Table 10.6

Basic strategy forms of foreign market entry (forms of capital penetration)

Output form	Export	Contract business (licensing, franchise)	Creation out of the production affiliate	Joint companies
Advantages	Maintaining control, support of production in the country	Law investment demand	Providing of complete control; localization of production	Minimal risk, requirement in less initial charges, than in case of creating own producing subsidiary
Disadvantages	Vulnerability to foreign protectionist barriers	Minimal level of real control	Necessity of considerable investments; possible unpopularity from political point of view is possible	Necessity in highly detailed contract work; difficult in management

Let's consider thoroughly the forms of the strategic entering into foreign markets.

An export shows by itself aggregate of acts, realized between contractors from different economic and currency areas concerning buying commodity by one counteragent from the country of another contractor.

Contract cooperation agreements foresee entering into contracts with foreign companies, accordingly to what the firm gives the assets (patents, commercial secrets, "now-how", factory brands and others like that) in an exchange on the different forms of payments.

Creation abroad own productive subsidiary, realized through accomplishment of straight foreign investments.

Joint venture; advantages of this method of capital penetration to the other markets are risk minimization, less volume of charges, than in the case of own productive branch creation.

By the basic traditional forms of foreign investment realization are:

- partial participating in business, that are created foreign corporate entity and by individual persons, or acquisition of part acting enterprises;
- creation of enterprises, that fully belong to foreign investors, branch offices and other parts of corporate entities or acquisition enterprises utterly;
- acquisition not forbidden by laws real or mobile estate, in particular houses, apartments, lodging, equipment, transport vehicles and other objects of property, by the direct receipt of property and property complexes or in form of share, obligations and other securities;
- independent acquisition or with participation of Ukrainian legal or individual persons rights on using earth and use of natural resources on territory of Ukraine;
- acquisition of other of property rights;
- economic (enterprise) activity on the basis of agreements about the division of products;
- other forms, not banned by laws of Ukraine, including. without creation of legal entity on the basis of contracts with subjects of economic activity of Ukraine.

It is characteristic for the traditional forms of foreign investment community of being in possession of capital, management organizational and technological experience. New forms of foreign investment break up this community on separate economic agreements.

Among the new forms of foreign investment it is possible to distinguish:

- 1) deviation from organization own foreign company by activation of joint ventures creation. The most popular form of foreign investment in Ukraine is a joint enterprise or company with foreign investments. It is an enterprise (organization) of any legal form, created in accordance with the legislation of Ukraine, a foreign investment in charter fund of which, at its presence, presents no more 10%. An enterprise gets status of enterprise with foreign investments from the day of putting foreign investment on its balance;
- 2) transition from simple acquisition of share foreign companies to creation of new subsidiaries and affiliates abroad. Creation of foreign subsidiaries and affiliates assists the increase of the middle level of labour productivity. There are two main reasons of this phenomenon :
 - foreign companies have a higher level investment of capital on unit of labour which directly influences on the increase of labour productivity;
 - as a rule, foreign companies - are more structured (comparatively with national firms) assist the increase of the labour productivity due to the effect of scale;
- 3) transition from share ownership by foreign companies to the conclusion with them long-term contracts. Transition from indivisible share ownership foreign subsidiaries to admitting to them local businessmen of penetration countries (joint ventures), and sometimes of the state (mixed companies) facilitates introduction of modern technological processes, access to the production partner's capacities, staff, adjusted system of sale;
- 4) shares distribution of main company among shareholders of foreign subsidiaries. Distribution of maternal firm foreign capital or zonal centres among businessmen and governments foreign states the investor tries to attain expansion of possibilities of strange resources mobilization;
- 5) a ration participation of foreign investor, which does not give right of company control;
- 6) licence contracts with countries-recipients companies allow investor to enter the market of with a minimal risk. Transnational company passes rights on the production of certain product or favour on the use of the patented process, technology, commodity sign or another intellectual ownership to the local firm, which will be responsible for a production and marketing at the local market. Foreign investor can buy shares of local firm, with which he has a license agreement;
- 7) administrative contracts. Contracting is characteristic, foremost, for penetration in countries with the developing market relations. Long-term contracts with local firms about the grant of technologies, equipment or building of enterprises (in particular, "turn-key"), preparation of specialists, etc. General societies also became popular. They are based not on the possessing property, but on contract copulas. A foreign firm which participates in such society has a right on the certain stake of its products, sometimes on prices, more lower from world, in an exchange on credits, equipments and various services. After debt to the foreign partner liquidation it can reserve right to get the fate of products during a contractual period;
- 8) agreements "product in hands", foresees preparation of local specialists in which unlike supplying with an enterprise "turn-key", who should provide functioning of object which is built;
- 9) agreements about the division of production, "risky projects" (mainly in area of secret service and booty of natural resources);
- 10) trilateral financing;
- 11) international contract;

12) project financing.

List of types (forms) of foreign investments that is given in legislative acts and international agreements, is approximate, as a concept "investments" embraces all types of property values, which a foreign investor inlays on territory of receiving party. Because of it one distinguishes the signs of classification of foreign investments (Tab. 10.7).

Table 10.7

Basic signs of foreign investments classification

1. Form of capital exports:	- loan; - productive; - trade; - intellectual.
2. Objects of investment:	- real (long-term investments of money in industry of material production); - financial (international financial-credit activity). - intellectual (preparation of specialists, transmission of experience, "now-how", general scientific projects).
3. Depending on the factors of moving of production abroad investments are divided on:	- investments which assist expansion of export; - investments which must serve the local markets of host countries; - investments which are carried out under act of stimulant measures of host countries; - export oriented investments (id est when investments are directed in the production of goods for her further export from a host country); - are import substitute investments which are directed in the production of goods for the internal market of host country.
4. Investments are depending on the degree of control above companies	- lines (basic form of export of private capital which provides establishment of effective control of it gives a right for a direct order a foreign company); - portfolio (investments of economic resources by acquisition of ration securities (in particular actions), part of which in a capital will present part of general capital of enterprise below than limit, certain for direct investments.
5. Purpose of investing	- for achievement of enterprise purpose (instituting control is above an enterprise); - for achievement of financial goal (receipt of percents for possessing a credit, by a loan and other).
6. Form of registration of foreign investments	- are obvious investments (legally the correctly executed procedures of capital exports); - are the hidden investments (what cross flows of capital executed as investments, for example streams of capital between the branches of THK); - are present capital exports through securities; - are "shadow investments" (money is got an illegal way).

10.7. Formation of the public policy in stimulation of investment activity and involvement of foreign investments

Function of the state in the field of investments realized through the representative offices of different organs (state as a participant) or directly through distribution of budgetary facilities (state as an investor). The state becomes an investor on such conditions:

- undertakes the functions of investor of those industries of economy and production, the products of which have national character and in accordance with a legislation can be produced on state enterprises or enterprises which privatizing will be carried out in the near time;
- financing of those industries and productions, where the state is a customer and consumer of products (a defensive is industry, highways, terminals and other);
- functions of investor in a social sphere, especially at financing of products of agro industrial complex;
- the state can invest those productions temporally, where a slump (units, knots, awaiting-parts which are consumed by domestic enterprises) is;
- the state can invest development of productions expediency which is grounded by the market state (with the purpose of receipt of income) of affairs.

Public authorities are responsible for a macroeconomic assistance to investment activity. At disposal of the state there are both levers as a direct action in the centralized state capital

investments in the objects of national value, development state to the sector of economy and indirect facilities of adjusting of investment process due to a fiscal and money-and-credit policy.

Budgetary levers is set by the state system of different types of taxes, which determine such system of redistribution of profits of enterprises and citizens of country which the state considers to be optimal for forming profitable part of budget and maintenance at enterprises and businessmen of market stimuli to work and receipt incomes practically.

The state is the biggest businessman in the country. Expense of budget is a ponderable mean of forming of the combined demand, and through it stimulation of investments in general and its inter-branch structure.

Through a monetary policy the state influences on investment terms, regulating turnover and work of the banking system, which essentially, reproduce the increase of money in the economic system. The main instruments of monetary accommodation are:

- norms of insurance backlogs which must keep in the obligatory order the banks and distract certain part of the facilities from the active use for crediting and investing;
- a registration rate of national bank, after which it sells credit resources to establishments of banks, increasing or diminishing the volumes of credit sources for financing of investments;
- open market operations with state securities.

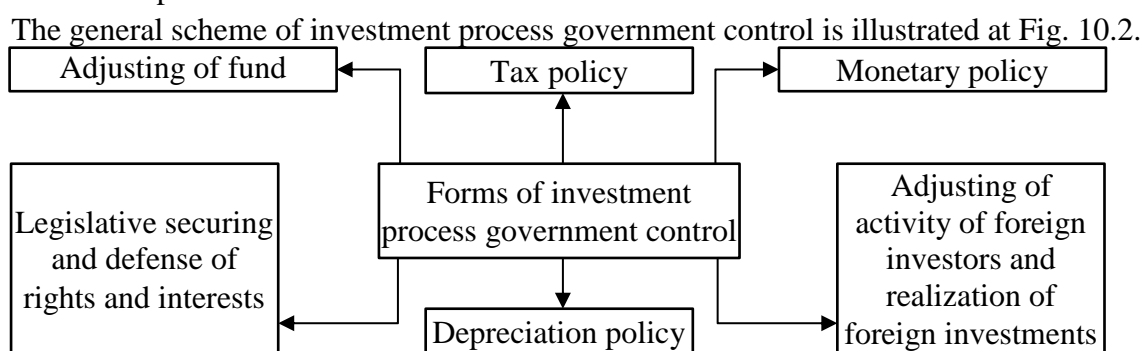


Figure 10.2 – Forms of government control of investment process

The important aspect of public investment policy is development of the investment capitals protection system of investors. Taking into account this increase of volume of investments depends on the improvement of macroeconomic situation in Ukraine in tote and development of local self-government effective mechanisms of improvement of the economic, normatively-legal, informative providing, related to state administration investment activity as powerful stimulant of market relations development.

Questions for self-check:

1. What does the economic main point of investments consist in?
2. By what features are investments classified?
3. What are the main varieties of investments?
4. That does the notion “subject of investment activity” mean?
5. What are the functions of investor?
6. What do the peculiarities of investing management in Ukraine consist in?
7. What does the main task of risk management in investing consist in?
8. Call the main methods and forms of investment project financing.
9. Describe the main drawbacks and advantages of investment programs financing sources.

10. How do notions “leasing” and “rent” correlate?
11. What do the main differences between backing, allocating investment support, grants getting, subventions, sponsorship and donorship consist in?
12. What belongs to discounted efficiency rating of investment project?
13. Describe the design procedure and use order of current net value indicator.
14. Describe the design procedure and use order of profitability index indicator.
15. What is the main point of Altman and Fulmer models?
16. What does the main point of international capital consist in?
17. What are the main advantages and disadvantages of access to new foreign markets?
18. What are the ways and forms of international capital formation?
19. Call the main forms of investment process government control.
20. What are the peculiarities of investing government control in Ukraine?

CHAPTER 11. REGIONAL MANAGEMENT

Objective: *to develop a set of knowledge and skills from the range of theoretical issues, namely on the planned regional management, local budgeting, forming and support the development of social infrastructure in the region of labor potential and others. - For development and rational use of the regional potential and the territory.*

Subject: *the social and economic relationships in the process of managing the region (s) and the territory.*

Content modules: *theoretical basics of the regional management: the territorial organization of the country economy, regional management under market conditions, principles of regional management, management priorities of regional development, socio-economic interests of the region, policy and strategy of the regional development.*

Organizational forms of territorial management: the essence of organizational management system, organizational designing methods of the management systems at the regional level, organizational schemes of the market economy management in the region, state regional administration, organizational principles of local government.

Scientific and methodological bases of the planned regional development management: system-diagnostic analysis of the regional development, methods of economic regionalization, typology and territorial classification, methods for integrated assessment of the regional development, purpose-oriented method in the management area, the program of economic and social development of the region as a form of regional planning.

The management of the formation and the use of labor potential of the region: a regional population settlement system as an object of regional management, concept and assessment of the regional labor potential, regulation of employment in the region and regional labor markets.

The management of productive industry in the region: intersectional complexes as an object of regional management, management of the industrial infrastructure development in the region, reform of the industrial sphere and distribution chain in the region.

Economic mechanism of the regional management: regional economic market-based mechanism, local budgets, the formation and use of financial resources of the region, the fiscal policy in the region, regional foreign trade activities, special economic zones, investment development of the regions.

The management of the regional social development: social infrastructure as an object of the regional facility management, regulation of social infrastructure.

The management of natural and economic equilibrium in the region: the principles of ecologically sustainable development of the territory, the management of natural resource potential of the region, forms and methods of environmental management in the region.

11.1. Theoretical bases of the regional management

The notion of region and regional management

The term "region" is derived from the Latin word "region" and is translated as region, district, area. It is often used to determine different country teams and can coincide with the boundaries of administrative units of a village, town, city, district or it can combine several of these units according to territorial, economic or other principles, such as economic region, a special (free) economic zone etc.

A region in the national economy is determined as "a separate independent economic system that has vivid bounds of its territory, its own machinery of government, material and financial basis and is usually determined by state laws based on its strategic and tactical objectives.

Territorial governing is a management that is determined by political, administrative and territorial system of the country and is directed to the efficient fulfillment of the territorial functions. Regional government means regulating of social reproduction processes in order to enhance the efficiency through the improvement of the territorial division of labor and interdistrict relations.

The term "regional government" is usually understood as governing any territory, regardless of existing political, administrative and territorial boundaries.

Territorial organization of the region economy.

Region is a complex system that includes such structural elements as the environment, industrial and social spheres.

The natural environment is a combination of natural conditions for society existing. The natural environment includes the factors of natural or natural-anthropogenic origin, that possess the properties of self-regulation and self-support without constant adjusting influence by a man, directly or indirectly they affect a person or groups of people; the energy state, the content and dynamics of the atmosphere and hydrosphere, the composition and structure of the ground, the soil and entrails of the earth, the form and structure of the biological part of ecological systems (vegetation, animal and microbial environment) and their landscapes, population density and interaction of people as a biological factor.

The social environment is a life support system that affects the social and reproductive process, ensuring the conditions of life. It includes a set of branches, social organizations and institutions designed to ensure social reproduction process: the production, distribution and consumption of resources and life benefits (the socio-economic component of infrastructure), support, restore and convert the balance of natural and synthetic populations of human vital activity (social-ecological component of infrastructure) norms and patterns development of activity, behavior, communication and interaction with the natural, cultural and social environment, as well as the annexation to these samples and standards of every new generation of people (the ideological component of infrastructure).

Population is the most dynamic component of the natural-economic complex. The dynamism is defined by its natural movement (fertility, mortality) and mechanical movement. The population is described by such characteristics as gender-age structure, social structure, social employment in common production, distribution of labor resources between fields of activity, skill level, life expectancy, health, and others.

Economic complex of the region comprises two spheres of activity - production and non-production sectors. Production sphere enterprises produce the output hereby providing itself with various goods as well as the non-production sphere and population. Enterprises and organizations of non-production sphere render the services of material and intangible nature. These days in Ukraine the employment in the production sphere is in three times higher than the employment in non-production sphere that affirms the low labor productivity in the production sector and the backwardness of non-production sphere. The transition to a market-oriented economy, privatization processes are causing changes in the current ratio between production and non-production sectors towards increasing the number of employees to the latter. Companies that form the both sectors of the national economy unite in the industry.

Production sector of Ukrainian economy includes 8 major sectors: industry, construction, agriculture and forestry - (they directly manufacture products), transport and communications,

trade, catering, logistics supply, storage and sales (bring these products to the consumer). Each sector contains enlarged (complex) fields, each of which in its turn, consists of simple sectors, and simple sectors may be divided into sub-sectors and types of productions.

For structure of the industry, most industries are the parts of heavy industry (fuel and energy complex, metallurgy, chemical and forest products industry, construction materials). The sectoral structure of the region is shown in Fig. 11.1.

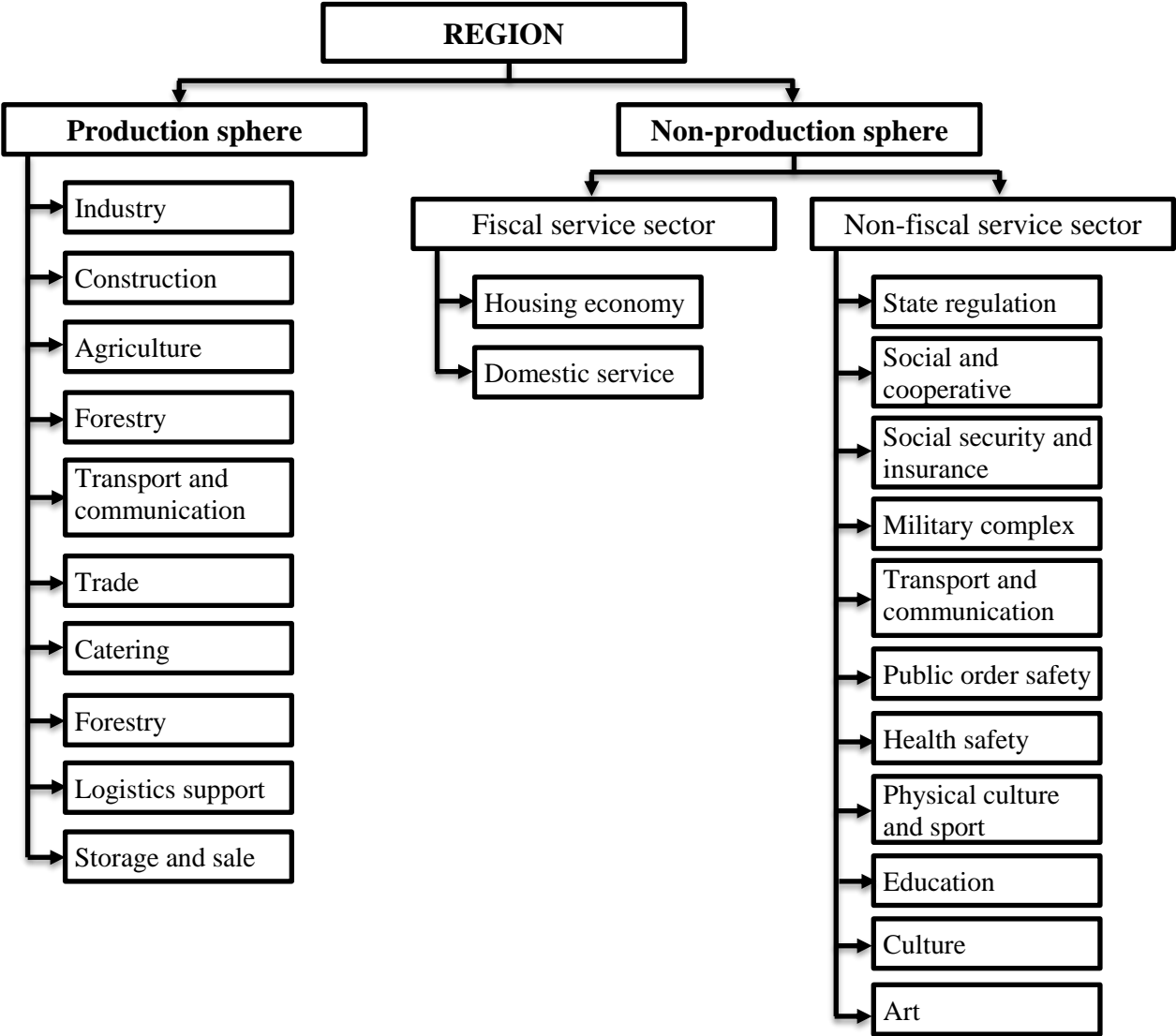


Figure 11.3 – The sectoral structure of a region

The functional structure of the region is represented by different types of economic activity. The functional structure of the region is divided into main, accompanying, additional, servicing and local sectors (kinds of activities) (Fig. 11.2).

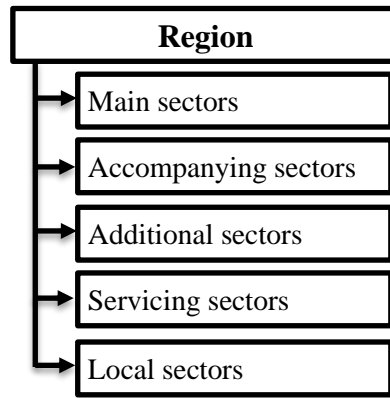


Figure 11.4 – Functional structure of region economy

The main sectors are the productions, which play a key role in the economy of the region, determine its place in the state division of labor and form the bases of the regional system.

Accompanying sectors of the region are to realize the major diversification of the main production fields through the parallel or subsequent processing of raw materials or waste.

Additional sectors (kinds of activities) are usually not associated with major technology sectors; they solve the local economic and social challenges.

Servicing sectors (infrastructure) make to the region such supplies as water, electricity, building materials, provide repair requirements, transport and communication facilities, professional training, health safety, recreation and so on.

The basis of the sectors distribution of the region on specialization areas and sectors of local importance is the analysis of national economic importance. Industries that have more than local importance and participate in the national labor division are related to specialization sectors. Material expressions of interregional importance of the products are its exportation out of the region.

The key features that characterize the specialization sectors are the availability of products export of the field beyond the region and a high degree of manufacturing concentration in the region.

To analyze and evaluate the signs of specialization sectors the two groups of indicators are used:

1. The index of specialization level or localization ratio is the most versatile and informative, calculated on the basis of comparing the region sectoral structure with similar economic structure as a whole. If the specific gravity ratio in the sector of the region is higher than specific gravity in this sector of the country more than unity, then this sector is specialization sector.
2. The effectiveness of specialization (i.e. the ratio of output per costs unit in the region to the same index at the national level)

Social infrastructure as an object of the regional management

Social infrastructure is a collection or a set of sectors which state in the social division of labor is to meet the needs of human welfare, social and spiritual services.

The economic literature along with the notion of "social infrastructure" gives the notion of "social sphere", "service sector", "social security". Most often the content literature renders a notion of "social infrastructure".

Social infrastructure (sphere) is composed of functionally interrelated subsystems: the pecuniary- domestic (domestic services, domestic trade, consumer services, public catering) and socio-cultural sub-system (health safety, education, culture, art, living standards). The social

infrastructure gives also such an important sector as recreation and tourism (Fig. 11.3), which during the last decades had a rapid development.

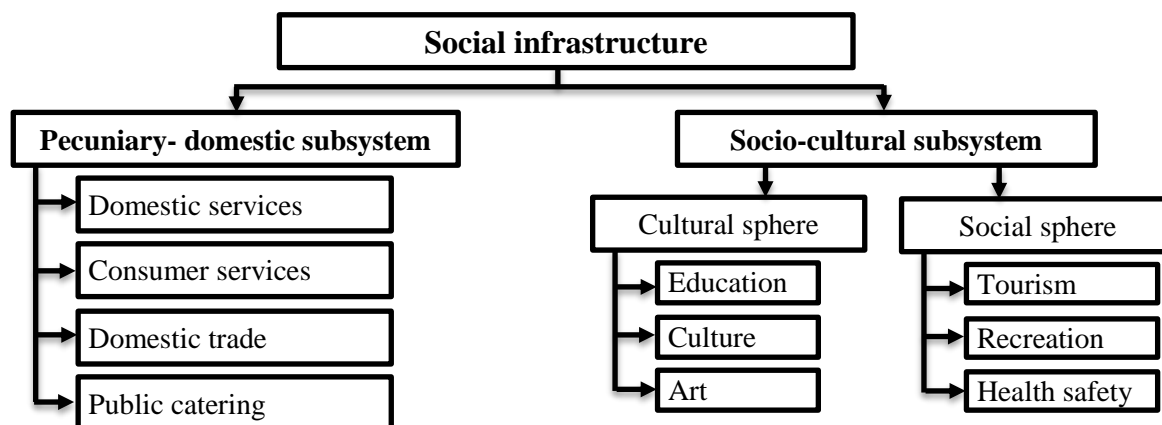


Figure 11.5 – Social infrastructure of the region

At the same time the deterioration enterprises degree of social infrastructure is within 50-60%. The significant reduction of capital investment in social infrastructure (70-75%) also affirmed that its physical infrastructure slightly updates, the latter is little upgraded on the base of new construction.

11.2. Organizational forms of territorial government

The authorities at the local level

State authority in Ukraine is based on the principle of its division into legislative, executive and judicial powers. The above mentioned three branches are shown at the national, regional and local levels, the levels of local community, town, and village. At the levels of the Administrative Republic of Crimea, regions and districts and of such cities as Kyiv and Sevastopol there work:

- a) state authorities in the face of representatives of the national executive and judiciary bodies;
- b) state authorities in the face of local state administrations;
- c) local governments.

The local state administration is a local executive body and is a part of the state executive power. It accomplishes the executive power on the territory of the proper administrative and territorial unit, as well as implementing the powers delegated to it by the appropriate Council of Deputies (regional, district, local and other).

Local administrations are legal entities. The legal status of local administrations is established by the Constitution of Ukraine by the Law on local government administration and other laws of Ukraine.

Local state administrations are headed by the proper local administrations head. The heads of local state administrations are appointed by the President of Ukraine on the Cabinet of Ministers proposal for the term of reference of the President of Ukraine.

The heads of local state administrations, their deputies, the heads of departments, divisions and other structural subdivisions of local state administrations cannot be the deputies of Ukraine, or combine their official activity with other, including the voluntary basis, except for teaching, research and creative activities out of the working time, or to be a member of the governing body or supervisory board of some organization that aims to profit.

The list of departments, divisions and other structural subdivisions of the district administration is shown in Fig. 11.4.

To implement the granted authority the local administrations have the right:

1) to check the compliance of the Constitution and laws of Ukraine and other legislative acts of local governments and their officials, business leaders, organizations and their branches and offices, regardless of ownership forms and subordination to the directions;

2) to involve the scientists, specialists, representatives of the public for inspection, preparation and consideration of matters within the competence of local public administrations;

3) to obtain the relevant statistical information and other data from the state bodies and local governments and their officials, political parties, civic and religious organizations, enterprises, institutions and organizations, their branches and offices, regardless of ownership forms.

Financial backstop of the local administrations is provided at the expense of the State Budget of Ukraine.

The local administrations officials are the public servants and their basic rights, duties, responsibilities, terms of remuneration and social security are defined in the Law of Ukraine on Civil Service.

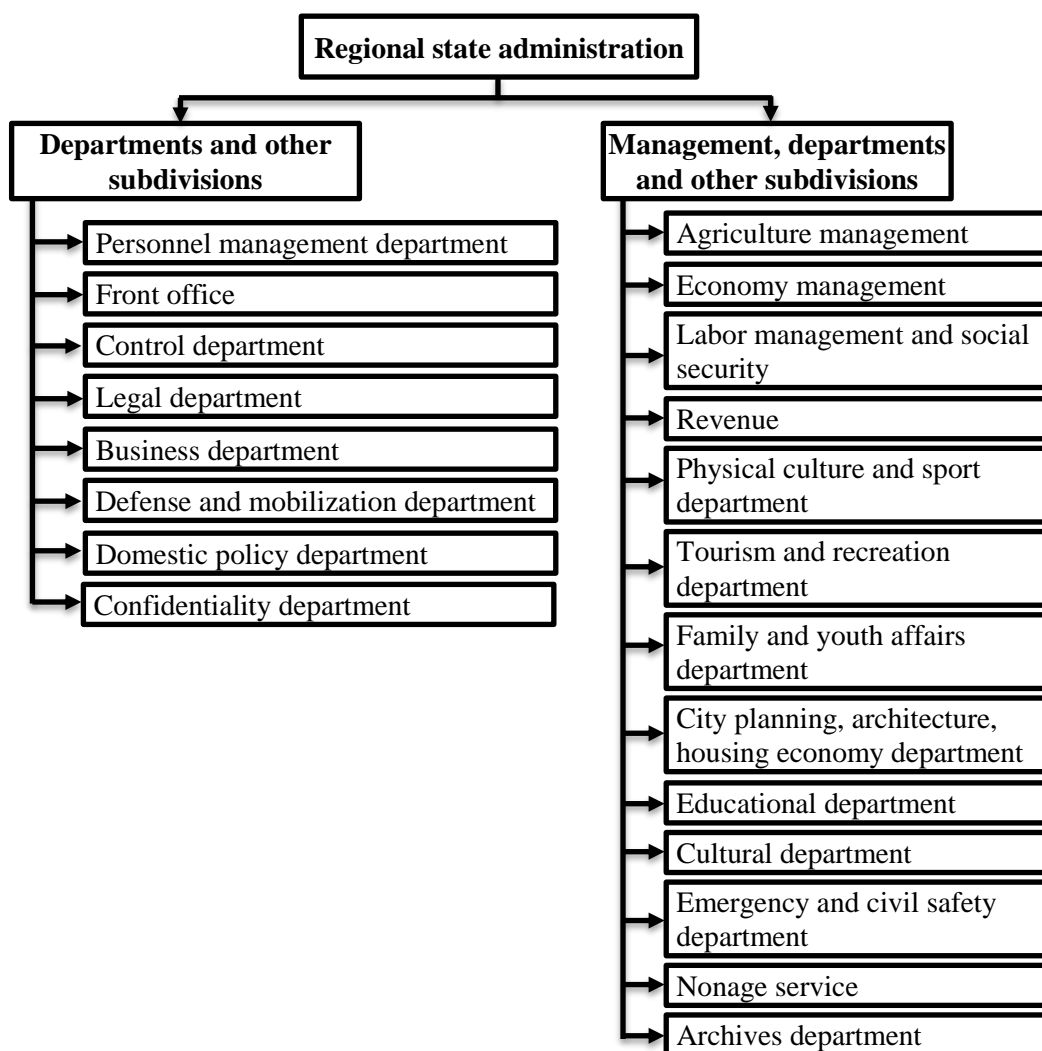


Figure 11.6 – The list of administration departments, divisions and other structural subdivisions of regional state administration

Local authorities

According to Art. 5 the Constitution of Ukraine, people accomplish the power directly through government agencies and local governments either.

Local government in Ukraine is a guaranteed by the state law and the real ability of the territorial community, the residents of a village, town or city, independently or under the responsibility of the bodies and local government officials to solve the local issues within the Constitution and laws of Ukraine.

The system of local government includes:

- 1) local community;
- 2) village, town or city council;
- 3) executive bodies of village, town or city council;
- 4) district and regional councils representing the common interests of territorial communities of villages, towns and cities;
- 5) the bodies of people self-organization.

Territorial community is the people, united in domicile within a village, city, which are independent administrative, territorial units, or a voluntary association of residents from several villages that have a single administrative center.

Village, town or city council is a local government body, representing the corresponding local community and carrying the local government functions and powers on their behalf and their interests, defined in the Constitution of Ukraine.

Regional and district councils are the local authorities that represent the common interests of territorial communities of villages, towns, cities, within the powers of the Constitution of Ukraine and the powers assigned to them by village, town and city councils.

The executive bodies of Counsels. The executive bodies of village, town, city, city district councils (if established) are their executive committees, departments, administration and other executive bodies created by councils. The executive bodies of village, town, city, city district councils are subordinated and accountable to the corresponding councils, and on the agenda of delegated executive powers also affiliated with the relevant bodies of executive power.

Village, town, city head is the chief executive of the local community in a village, town or city. Village, town, city head is elected by the respective territorial community on the base of universal, equal and direct suffrage by secret ballot for four years in the manner prescribed by law and executes its powers on a permanent basis. Village, town, city head leads the executive committee of the village, town or city council, presides at the meetings.

Local governments are legal entities. The material and financial basis of the local government is the chattels and estate property, revenues of the local budgets, other costs, land, natural resources, which are in communal property of territorial communities of villages, towns, cities, city districts, and objects of their common property that are managed by district and regional councils.

The legal status of local government in Ukraine is established by the Constitution of Ukraine, the Law on local self-government in Ukraine.

11.3. Foreign economic activity in the region

The essence and components of foreign economy activity in the region

Foreign Economy Activity (FEA) - is a development of economic relations between the countries engaged in foreign trade, capital and labor migration, international scientific, technical

and industrial relations, joint exploration of air and space, the oceans, environmental protection, programs and agreements performance and so on.

Principles of FEA:

1. The principle of subjects' freedom to enter voluntarily into the FE relations in any form not forbidden by law.
2. The principle of equality before the law.
3. The principle of sovereignty of the Ukrainian people.
4. The principle of interests protecting of all economic FEA subjects.
5. The principle of exchange equivalence.
6. The principle of dumping inadmissibility.

State regulation of foreign economy activity

The state regulation of foreign economic relations involves the creating of right conditions and mechanisms for the effective development of relationship, activity accomplishment in this sector.

Regulation objects of FEA:

- foreign trade;
- International investment flow;
- currency and credit relations;
- scientific and technical exchange;
- International migration of labor;
- external debt of the country;
- environment;
- wealth of the oceans, air-space.

The subjects of regulation of FEA:

- state bodies within their competence;
- non-government authorities FEA (currency, foreign exchange, commodity exchanges, trade chambers, associations, etc.);
- non-governmental regulatory authorities (WTO, EU authorities, customs Union), providing international coordination in the field of foreign economic relations;
- the subjects of FEA (enterprises, companies, organizations), on the base of appropriate coordination documents.

By regulating FEA, the state implements some FE policy.

FE government policy is an activity aimed to regulating the relations between state entities with foreign entities and protection of domestic markets and domestic producers.

There are following types of foreign policy:

Protectionism is a state policy aimed to protect the national economy from foreign competition.

The principles of free trade are the policy of free trade aimed to free access to the national market of goods, capital, labor etc.

To regulate the foreign relations the state may use a certain system of utilities divided into economic and administrative ones.

By means of the acting the *economic instruments* are divided into instruments of direct and indirect (mediated) effect.

The instruments of *direct effect* include:

- Government expenditures (for a new mode or physical object);

- Direct control over economic processes (regulation of import and export volumes);
- Legislative decrees.

The indirect action instruments affect the cost ratio of the economy.

The instruments of *indirect action* are:

- the import composes the tariffs, multiple taxes and goods levies that are imported and import deposits;
- the export composes the soft loans of exporters, guarantees, subsidies, tax exemptions and financial assistance.

Administrative instruments of regulation affect directly the external affairs:

- embargo (full prohibition of foreign economic transactions);
- licensing;
- quotas (quantitative limitation of import or export);
- specific requirements to the product, packaging and labeling;
- commitment to self-supply exporters.

The government agency that deals with the regulation of economic activity includes: the President of Ukraine, the Verkhovna Rada (The Supreme Counsel), Cabinet of Ministers, Ministry of Economy, National Bank, State Customs Committee, the Antimonopoly Committee.

At the local level FEA are regulated by the local councils and their executive and administrative authorities, territorial units of FEA government regulation.

Specific economic zones

Special Economic Zone is a specific regional formation or a territory where a special regime of economic activity of foreign investors and enterprises with foreign investment are established as well as domestic enterprises and citizens.

According to the objectives and purposes of this or that zone there are some specific requirements for its deployment particularly:

- favorable transport and geographical location as to the domestic and foreign markets (as a rule it is in line with the zones that has different border location and has fairly well developed communication, especially port cities);
- advanced industrial potential, the availability of industrial and social infrastructure;
- the availability of unique resources of the territory and valuable natural resource potential.

On Ukraine's territory there can be established the following varieties of SEZ:

- free custom zones and ports;
- transit zones;
- bonded warehouses;
- technology parks and polis;
- complex industrial zone;
- tourist and recreational zones;
- insurance and banking zones.

SEZ management is accomplished at two levels.

The first level is a state SEZ regulation, the second is on-site management.

State SEZ regulation is accomplished by SEZ Agency, which acts on the ground the Ukrainian President Decree On the position of the Agency for the special (free) economic zones from 17.05.1999. The Agency is subordinated to the Cabinet and its activity is coordinated and directed by the Ministry of Economy of Ukraine.

Irrespective of their type *the SEZ governing bodies* are:

- the local council deputies and local administrations, within their powers;
- authority of economic development and management of FEZ.

The functions and powers of local councils and local administrations are:

- variation proposing in the status of SEZ;
- issues treatment related to the specific legal and financial security, social protection of Ukrainian citizens living in the SEZ territory;
- the conclusion of the general agreement with the economic development authority of SEZ on its use of land, infrastructure and natural resources located in this territory.

11.4. Analysis of the regional development

System-diagnostic analysis of the regional development

The diagnostics of the region can be started with the determination of human potential development index (HPDI). The value of time change can testify about the effectiveness of management strategies. HPDI is defined as an arithmetical mean of three indices:

$$HPDI = \frac{1}{3} \sum_{i=1}^3 \frac{x_i - x_{\min}}{x_{\max} - x_{\min}} \quad (11.1)$$

where x_1 – is the prospective life expectancy at birth. By the calculating the minimum is 25 years, maximum is 85 years;

x_2 – is the level of education. It is calculated as the sum of adult literacy index (D_a) with a share of 2 / 3 and the index of total share of primary, secondary and higher education institutions ($^2_{\bar{n}=\bar{o}}$) with a share 1 / 3. The index of literacy for adults (15 years and higher) X_{\min} is 0, and X_{\max} is 100%.

The total share index of students is calculated for people younger than 25 years, and its thresholds are the same as in the literacy index:

$$I_{p.o.} = \frac{(2 \cdot P_z + I_{cny})}{3} \quad (11.2)$$

where X_3 – is real GDP volume for 1 person (in dollars). In calculating $X_{\min} = \$ 100$ and $X_{\max} = \$ 5448$ (for Ukraine $X = \$ 1630$).

A high HPDI indicates high living standards.

The monitoring of socio-economic status of the region is carried on the following main directions:

1. *The diagnosis of natural resources potential* is quite complex and certainly is not the settled problem. The most common methods are:

- natural resources assessment is associated with the cost of their development and recovery;
- natural resources assessment is associated with differential rents, differential income, that is with the resource exploitation effect.
- natural resources assessment is associated by means of the costs (costs per unit output growth in a particular area at a certain period of time).

2. *The demographic diagnostics and diagnostics of the labor market.* Unlike the natural resource diagnostics, it is based on the well-known and used methods of demographics.

3. *The diagnostics of settling.* It is required by regional social policy implementation, as well as regional planning and implementation of various investment programs. Among the simple indicators of settling it's possible to distinguish the accommodation index of the territorial concentration of population:

$$R = \frac{D}{0.5\sqrt{S/n}} \quad (11.3)$$

where D – is the mean distance between the nearest settlements;

S – is the area of studied territory;

n – a number of settlements.

It is supposed that even accommodation meets the coefficient close to 2, with congeries at one point - near the mark "0" at a chaotic accommodation - near the mark "1".

4. *Diagnostics of the economic development level.*

It describes primarily the use level of regional production factors. The main index for the diagnostics is the gross regional product (GRP).

Gross Regional Product (GRP) is an index, defined as the difference between the amount of output and the amount of intermediate consumption in the region.

5. *Diagnostics of dynamic qualities of the region.* The approaches variation to the study of dynamic qualities is quite diverse. The most common is the degree of socio-economic structure stableness; the stage of economic and investment cycle; the assessment of multiplicative process.

6. *Diagnostics of regional economy complexity.* It is connected with the diagnostics of industrial structure. One important factor that takes into account the degree of "self-reliance" in the region:

$$N_s = \frac{P_r \sum C_r}{P \sum C_c} \quad (11.4)$$

where N_s – is the complexity level;

P – is the gross domestic product consumed by the region;

p_r – is the consumption of product produced in the region

C_r – is the composite index unit cost of products manufactured in the region;

C_c – is the composite index of cost of similar products in the country.

7. *Environmental diagnostics of the region.* The regional environmental quality is diagnosed.

Analysis of the human development index in the region

Human Development Index is the index for comparative assessment of poverty, literacy, education, life expectancy and other indicators of the region.

The use of integral index that is based on nine components, each of which describes one aspect of the development potential of the region and with the proper weight is taken into account in the integral index.

$$HDI = \sum_{i=1}^9 X_{i3} \cdot P \quad (11.5)$$

where X_{y3} – is the generalizing index HDI

P – is the weight in the HDI index.

The summarizing indexes represented by 9 kinds:

1. *Demographic development.*
2. *Development of the labor market.*
3. *Material prosperity of the population.*
4. *Living conditions of the population.*
5. *The level of education.*
6. *The state and health safety.*
7. *Social environment.*
8. *Environmental situation.*
9. *Financing of human development.*

Each system indicator has an independent significance, yet the part of the generalizing parameter. Taking into account that almost all indicators of human development are named values, a necessary procedure for measuring is the tentative valuation of selected indicators, which ensures comparability and comparability of the formed information base. The normalization is performed by different formulas for performance-stimulants and performance-destimulators. It is concerned with the necessity to unify those elements on which ranking is accomplished from maximum to minimum values, and those on which it runs in the opposite direction.

Index – stimulant is an indicator of growth which increases the human development index.

Index - destimulator - is an indicator of growth which helps reduce the human development index.

For performance-stimulants the summarizing indicators are calculated by the formula:

$$y_{ij} = \frac{Z_{ij} - Z_{j \min}}{Z_{j \max} - Z_{j \min}} \quad (11.6)$$

where Z_{ij} – is the i-th index value in the j-th region;

$Z_{j \min}$ – is the minimal value of i-th index in the j-th region;

$Z_{j \max}$ – is the maximal value of i-th index in the j-th region

For the destimulators-indexes the index rate is calculated with the formula:

$$y_{ij} = \frac{Z_{j \max} - Z_{ij}}{Z_{j \max} - Z_{j \min}} \quad (11.7)$$

11.5. The regional management of labor potential

The notion and methods of labor potential of the region

The labor potential - is a system which elements are the human resources with taking into consideration of their all quantitative and qualitative characteristics, employment and jobs.

The human recourses are the potential utilization of labor, of which the regions consist at a particular time.

The human resources managing in the region is to solve the following tasks:

- creating of the conditions for full citizens' accomplishment of the constitutional right to work;

- providing with the equal opportunities of career alternative and family employment;
- development and implementation of vocational and technical educational institution programs, training and retraining of personnel according to the society needs;
- creation of appropriate, safe and healthy working conditions;
- optimal proportions in the division of labor regional potential among sectors of the economic complex;
- balancing of the regional labor market, workforce and the number of jobs in the region;
- social safety net for non-competitive labor market groups.

The solving of these problems is accomplished by the local authorities with the help of legal and administrative methods.

The legal ones are defined by the Constitution of Ukraine by the Law on employment of people and other laws.

Economic methods are based on forecasts elaboration and regional socio-economic development programs the component of which is employment programs.

Analysis of the labor potential of the region

By program planning of the socio-economic and cultural regional development *calculation of the number employed* is provided. It consists of the form of the balance table where the demographic indexes are represented by the following sections:

- population;
- labor resources;
- the allocation of labor resources;
- the distribution of employed by sectors and industries.

The human recourses in regions cover the working age population, pensioners and young workers and are defined by the following formula:

$$HR = P_w - (P_u + D_u) + (P_w + T_w), \quad (11.8)$$

where *HR* – is the number of human resources during the expected period;

P_w – is the population of working age;

P_u – is the unemployed pensioners of working age;

D_u – is the unemployed disabled people of I-II group disability groups in working age;

P_w – is the working pensioners of retiring age;

T_w – is the working teenagers under 16.

The number of working population (NW) is calculated as the difference between the population of working age and the number of disabled I-II groups of working age and people who receive pension on preferential terms, i.e.:

$$NW = P_w - (P_u + D_u) \quad (11.9)$$

The human resources allocation involves the number of employees determining in the national economy in other spheres of economic activity; the unemployed, pupils of working age who study away from production; unemployed population of working age.

The unemployed person - is a person aged from 17 to 70 years either registered or not registered in state employment service that meet three conditions at a time:

- who did not have work (profitable occupation);

- who looked for a job or tried to organize the personal business in the examined week;
- who was ready to work for the next two weeks.

The registered unemployment level (*UL*) is defined by ratio of the registered unemployed number to the population at working age (*Nwa*):

$$UL = \frac{Up}{Nwa} \quad (11.10)$$

where *Up* – the number of registered unemployed.

The population number of working age:

$$Nu = HR - (En + Eo + Pp + Up) \quad (11.11)$$

where *Nu* – is the number of unemployed population of working age;

En – is the engaged people in the national economy;

Eo – is engaged people in other areas of economic activity,

Pp – the pupils of working age who study away from production

The quality of labor potential is a relative notion. Formally, it can be examined by the following criteria:

- *General education and vocational training* - the general proportion of working-age population with secondary education;
- *Qualification training* –the share of total working age population who has completed training in schools to III accreditation level including;
- *Higher education* – the general proportion of the working population who has completed training in educational institutions including the IV-th level of accreditation;
- *Restoration of the vocational knowledge* - is the share of total working population, who has improved their skills;
- *Health* – a system of indicators that characterize the collective health of the working population (morbidity, disability, clinical records levels, etc.);
- *Age* - the average age of workers, this value deviation from the regional norm of age;
- *Gender* - deviation of the working population sex structure from regional standards of the needs for a workforce of definite sex;
- *Family structure* - the number of preschool children per 1000 mothers of working age, the share of families where there are three or more dependents per a worker.

The rational allocation of production, the proportional development of all aspects of economic structure analysis of regions is necessary for *the balance of their human recourses*. (Tab. 11.1).

The preparation of labor resources balance provides the opportunity to assess the content of the labor force in cities and provide the necessary measures for resource compliance (labor recourses) the expense (labor distribution) parts of the balance.

Table 11.1

The balance of labor resources in the region

Balance divisions	Year		Changes in plan balance as to account
	Account	Prevision	
I. labor recourses – total, including:			
working population in working age			
population of pension age			
adolescents engaged in economy at 14-16			

pensioners of working age			
II. labor recourses distribution			
<i>1. Into the employment kinds :</i>			
in social sector, including:			
engaged in individual labor activity in cooperation			
people of 16 and older, who study out of the production			
<i>2. Into spheres of production:</i>			
in production sphere			
in intangible production sphere			
<i>3. Into fields:</i>			
industry			
agriculture			
construction			
transport			
communication			
<i>4. Into social groups:</i>			
workers and employees			
members of collective farms			
individual peasants, non-cooperative handicraftsmen, leasers and cooperative members, engaged into subsidiary farm, farmers.			

Regional employment program

To implement the state policy of employment there the State Employment Service is created by, which activity is accomplished by the Ministry of Labour and Social Policy.

The civil employment service is obliged to develop the regional employment programs.

Their goal is to ensure a gradual transition to the implementation of active employment policy, prevention of mass unemployment.

Formation of an active employment policy envisages the following objectives:

- the measures accomplishment to the economic expansion support of employment opportunities, intensity regulation of employees' release;
- the involvement of unemployed and jobless population to active work by their employment organization;
- the application of measures to improve the employment organization, support workers, who release and social security;
- the extension of employment for people with disabilities in the labor market;
- industry support of small-scale and medium businesses and self-employment of the population;
- the temporary employment facilitation of the unemployed and the organization of paid public works;
- the possibilities extension of professional preparation, requalification and retraining for the unemployed;
- the labor migration;
- the improvement and development of employment service.

The above objectives depict the program content. It consists of the following sections:

- the current situation analysis in the labor market;
- forecast of labor market development;
- the main tasks and priorities of the program;
- the mechanism of program management (Fig. 11.5).

The program management and oversee of its implementation relies on the head deputy of administration, labor and social protection of population and regional employment centers.

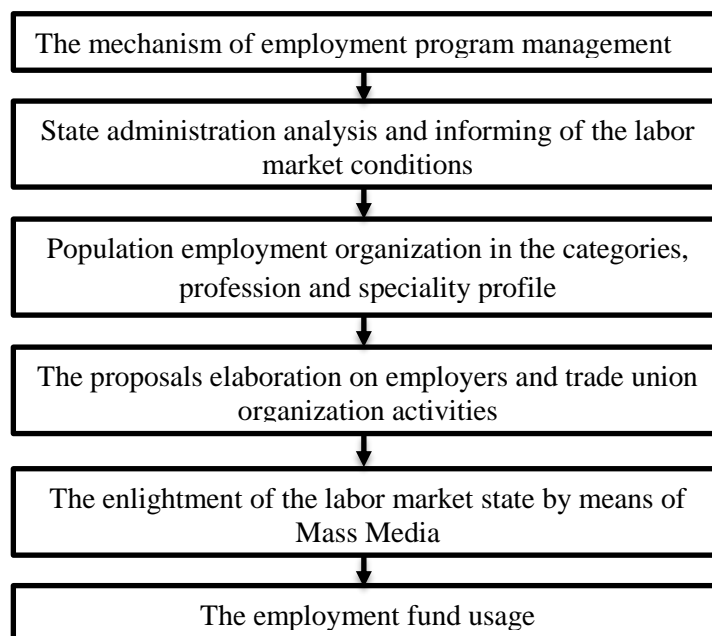


Figure 11.7 – The mechanism of program management employment

11.6. Management of natural resource potential of the region

The assessment of natural potential and tasks of natural resource management

Natural resource potential (NRP) of a region – is a combination of all natural means, resources that may be mobilized and used for a particular purpose.

NRP includes only the studied environmental elements divided into two groups:

1. *The natural conditions* are the bodies and forces of nature that at a certain level of development of productive forces are essential for life and work of human society in manufacturing and non-production fields.

2. *The natural resources* are the bodies and forces that at a certain level of development of productive forces and exploration can be used to meet the needs of human society in the form of direct participation in material activities.

The main tasks of natural resource management in the region include:

- the natural resource potential maintaining and strengthening of the territory;
- the ensuring of the rational and integrated use of natural resources;
- the reduce of the negative impact of production activities and utilities on the environment;
- the reproduction of flora and fauna;
- the creating of the favorable conditions of life, work and leisure.

The fulfillment of mentioned tasks in the regions are accomplished by local state administration.

The powers of local administration authorities in the use of natural resources and environmental protection are:

- the programs development and implementation of rational use of lands, forests, increasing soil fertility, which are in the state property;
- the preparation, submission for the proper council approval and the implementation of regional environmental programs;

- the measures to reconstruct the damage caused by violation of laws on environmental protection by the enterprises, institutions, organizations and citizens;
- the proposals submissions to the relevant local authorities to organize the territories and objects of nature reserves of local importance;
- the informing of the public about environmentally hazardous and accident situations, environmental conditions as well as measures taken to improve it;
- the work organizations on environmental consequences of accidents, drawing to these enterprises works, institutions and organizations regardless of ownership forms and citizens;
- the proposals submissions about interruption of enterprises, institutions and organizations activities in spite of the form of ownership in case of laws violation about environmental protection and sanitary rules;
- elaborates and provides following the rules of drained works use limits and prohibits use of drinking water by enterprises for the industrial purposes.

Forms and methods of management of natural-resource potential of a region

The main management forms of natural resources in a region are:

- ecological standardization;
- regulation;
- use permit;
- ecological economic control (provides the adherence by all enterprises and organizations all established demands concerning use of natural resources and discharging obligations as for environmental protection, prevention the bad influence on the environment and elimination of its consequences).

Methods of natural resources management:

- legal;
- administrative;
- economic.

Legal methods are determined by nature protection legislation, land, water, forest codes and the code about "The entrails".

Administrative methods are used by Cabinet of Ministers, Ministry of ecological security and its bodies with the regional state administrations, and also the local state administrations.

Economic methods of natural sources management are mostly based upon the programming and planning.

11.7. The mechanism of the regional management

Characteristics of management system by regional development

An object of regional management is a region, which can be presented as a range of the following subsystems:

- local administration with its cadre, financial, information, organizing structure;
- subsystems, determined in accordance with a competence of the local administration (social protection, care of public health, education).

Strategy of rational management consists of the following main levels:

- task formulation;
- regional diagnosis (or state monitoring);
- regional planning;
- regional strategic management.

The planning and prediction regions development

The territorial planning – is the fundamental component of planning of economic and social development of a country, which shows the peculiar spatial aspect of reproduction processes of material wealth, work force, relations of production and the solutions of the problems of social and economic character. It is the most important function of management the processes of territorial work distribution, specialization and complex economic and social regions development.

The main task of the territorial planning consists in the most absolute use of resource potential of regions on purpose to the highest possible meeting the needs of the society in material wealth and increase of the social production efficiency.

The most important task of the territorial planning is to estimate the prospects of development of each region. These prospects have to be found on the base of improvement of the stationing of country productive forces with due account taken of priorities on the development of separate regions.

The next task of territorial planning is providing of the regional complex development. The complex development of regions assumes their branch structure optimization on the base of every possible development of the branches of national economic specialization, whose production and service are set for the use on the whole within a region and serve for creation the common production terms, and vital activity of population. To that group of branches belong: regional production infrastructure, building, a number of industry branches and agriculture, which first and foremost are working for local needs.

The territorial planning is realized on all management levels, hereby settling its tasks on each of them.

The main requirements, which the system of foresight and programme documents has to meet, consist in the following:

- planning of the social-economic development has to reflect the functions of regional administration;
- planning of the social-economic development has to contain the base for elaboration of regional budget;
- foresight and programme documents, which characterize the social-economic region development, are called to perform the indicative function and contain the information, that has an interest for employers and potential investors concerning the level of social-economic region development, better economic administration policy and factors state, which determine the investment climate;
- in a program on a current year there should find the reflection of heredity and a connection with long-term strategy of social-economic region development.

Regional prediction – is a study of prospects of region development, that carries the previous character and contains the hypothesis about directions of development and future state of region in general and its separate components. It lets to estimate different versions of region development at this fore planned stage.

Prediction results serve as initial material for goal choice of development for the certain period, concept elaboration of regional development; and they are also used for control the motion of program execution, in a foresight section of distant work results.

The system of regional predictions includes its main kinds:

1. Ecological predictions (state of environment, the system of actions concerning prevention or maximum softening the bad influence of economical activity on the environment).
2. Social predictions (employment of population, demographic predictions, quantity and structure of population, labour resources, migration processes).
3. Predictions of natural resources and their familiarization (existence of resources, effectiveness of their use, reserves).

4. Development predictions of science and technique (development of fundamental science, applied researches, introduction of scientific elaborations in national economy).
5. Economic predictions of production pace and its structural improvements; development assessment of branches, store and competitiveness of their production; population income.

All kinds of regional predictions combine in such document, as *Scheme-prediction of development and disposition of the regional productive forces*, in which the tasks and the main indexes of economic and social development of a region, providing complex use of natural resources, solution of the social, economic and ecological problems are determined.

The territorial Scheme-prediction is formed for a period of 15 years and more. The methodical forming base of Scheme is Methodical recommendation in elaboration of the Scheme (prediction) of development and disposition of the productive forces of Ukraine and its regions for a long perspective, worked out by Board of scientists with a studying of Ukrainian productive forces, National Academy of Science in Ukraine, and also Methodical recommendations in forming of regional development strategies, confirmed by Ministry of economy and on European integration of Ukraine.

As well as predictive, fore planned document the Scheme helps administrative structures in estimation of predictive scripts of development, depending on the level and terms of the current problems solutions, in elaboration the programs of social-economic development, and also in choice of the most effective and the least costing variant, which corresponds to geopolitical and social tasks of regional development.

The second group of fore planned argumentation in a system of regional management form *schemes and projects of the regional planning*. They let realize the disposition and projecting of new, widening and reconstruction of existing objects of productive and non-productive spheres, and also all kinds of the main and intraregional communications.

The main kinds of regional planning are the planning of industrial regions and joints; rural administrative regions; regions of the cities; resort regions.

In the system of territorial management and projecting the main fore planned document is *the general plan of a town (settlement)*. On a base of the general plan of a town the problems of land use in the borders of a settling are solved. Within the general plan the predictions of the territorial settlement development are worked out, and also principle directions of its functional-planning structure.

The program documents of economic and social regional development

Regulation of economic and social development is realized on a base of the whole system of predictive and program documents of country development, separate branches of economics and separate administrative-territorial units. By the law of Ukraine "About state prediction and program elaboration of economic and social development of Ukraine" established the general order of elaboration, confirmation and execution of predictive and program documents, and also rights and responsibility of state prediction participants and program elaboration.

The system of predictive and program documents of social-economic development combine the four groups of documents:

The first group is predictions of economic and social development of Ukraine for the middle and short-term period. Prediction of social-economic development of Ukraine for middle term period is elaborated for 5 years. In this prediction reflects:

- 1) analyses of social-economic country development for the previous period and characteristics of the main development problems of economics and social sphere;
- 2) expected changes of foreign policy and foreign economic situation and their influence on the country economics;

- 3) influence valuation of possible measures of state policy at the predictive period on development of economics and social sphere;
- 4) goals and priorities of economic and social development at the middle term period and propositions on the directions of the state policy at this period;
- 5) prediction of economic situation at the home and foreign markets of strategically important kinds of goods and services;
- 6) the main macroeconomic and other necessary indexes and balances of economic and social development, including within branches of economics, Crimea, regions, Kyiv and Sevastopol;
- 7) the conclusions concerning the development tendencies of country economics during 5 years, alternative scripts of country development.

The prediction of social-economic development of Ukraine for the short-term period includes:

- 1) analyses of social-economic country development for the previous and current years and characteristics of the main problems of development in economics and social sphere;
- 2) expected changes of foreign policy and foreign economic situation and their influence on the country economics;
- 3) The main macroeconomic and other necessary indexes and balances of economic and social development, including within branches of economics, Crimea, regions, Kyiv and Sevastopol;
- 4) The conclusions about development of country economics the next year.

The second group of predictive and program documents is represented by State program of economic and social development of Ukraine for short-term period, yearly developed in the close connection with a project of State budget of Ukraine. In this program measures are concretized, envisaged in the program of activity of the Cabinet of Ministers of Ukraine, and tasks, formulated in the annual message by the President of Ukraine to Verkhovna Rada of Ukraine about inner and outer situation of Ukraine.

The third group of predictive and program documents include the predictions of economic and social development of regions, towns for the middle term period and programs of economic and social development, regions, towns for short-term period.

In the prediction for middle term period the analyses of social-economic situation in administrative-territorial units for the previous period are reflected, use conditions of natural, industrial, scientific-technical and working potential, ecological situation in the corresponding administrative-territorial units.

The programs of economic and social development of regions, towns are formed yearly and coordinated with the project of the State program of economic and social development of Ukraine for the corresponding year.

Structurally the year program of economic and social development of administrative-territorial unit consists of 11 divisions:

1. Analyses of economic and social development for the previous period.
2. Goals and priorities of economic and social development of the next year.
3. Ways of solutions the main problems of development of economics and social sphere and effecting of set purposes.
4. Financial resources (source of forming, financing of measures, financial state of household subjects).
5. Market changes (reforming of property terms, development of enterprises, forming of the competitive environment at the regional markets).
6. Mechanisms of regulation (objects management of communal property, investment activity, realization of state purpose-oriented programs and regional programs).

7. Development of the real economics sector (structural displacements, fuel-power complex, industry, agro-industrial complex, transport and connection, scientific-technique sphere, production of consumer goods and services).
8. Foreign policy activity.
9. Social sphere (demographic situation, population employment and the labour market, money earnings of population and wages, social security, pension reform, municipal economy).
10. Humanity sphere (public health, education, public, tourist-recreational field).
11. Management of nature and security of human vital activity (development of mineral-raw material base, protection of environment, industrial safety).

The fourth group of predictive and program documents involves the development predictions of the separate branches of economics for the middle term period and development programs of the separate branches of economics. On the branch level the development predictions of branches of economics are worked out for 5 years, validity period of a program depends on the peculiarity of a branch and set tasks and is determined by the Cabinet of Ministers of Ukraine.

Program purpose-oriented method in the regional management

Purpose-oriented program is the whole set of planned to the regular realization, conciliated by context, coordinated in the space and time, provided with resources of various measures (actions) aimed at the solution of vital problem, that can't be provided without concentration of efforts and funds for the achievement of formulated aim.

According to the role feature of the purpose-oriented programs in the management of economics there was a motion to distinguish the purpose-oriented programs and purpose-realized programs.

Purpose-oriented program or program-concept, called to orient and to prove the adjustment of the purposes for the long-term perspective. According to the nature such programs take the intermediate position between purpose-oriented predictions and purpose-realized programs. They differ from the former by the presence of formulated general program of actions, methods description of the achievement of formulated aims, from the latter – the absence of obvious, outlined the steps within the directions on executors.

The structure model of the program-concept can include the following sections:

1. Tendencies of social-economic processes for the previous period (10-15 years) and the main problems of social-economic regional development.
2. The premises of social-economic regional development.
3. Strategic aims and the most important tasks of the controlled social-economic development.
4. The main trends of structural changes.
5. Policy components of the controlled social-economic development.
6. Formation stages of a new model of economics and regional social sphere.

State management of the regional development

State management of the regional development – is the purposeful state activity in the person of the corresponding legislative, executive and controlling authorities, which by means of the system of different approaches and methods provide the achievement of the formulated aims and the solution of planned economic and social tasks.

State management of the regional development settles the following tasks:

- structural reorganization of regional economics on the base of estimation of social-economic, scientific-technique, ecological and demographical priorities;
- economics reconstruction of industrial regions and big local agglomerations, modernization of their infrastructure, improvement of ecological situation;

- overcoming the lag of separate regions according to level and quality of population life;
- the development stimulation of export and import substitute regional production, which have for it the most favourable conditions;
- the development of interregional and regional infrastructural system, which stimulate the regional structural displacement and provide the effectiveness of regional economics;
- the providing with a full and balanced use of natural-resource potential of the regions;
- the development of the most effective branches of production and social regional spheres taking to account the national interests;
- level increase of population welfare and improvement of demographical situation;
- improvement of environment status and preservation of nature genetic fund;
- providing with the balanced social-economic regional development.

Objects of state management of the regional development are the territorial units of state, regional and municipal levels.

Among the *subjects* of the state management of the regional development is well worth to distinguish bodies of power, representative authorities and bodies of local self-government. The main means of realization of state regional policy is the system of regional management – which aims, tasks and methods are determined on the base of generally accepted principles of productive forces development and development peculiarities of separate branches of economy.

11.8. The formation and use of the regional financial resources

The formation of the regional financial resources

The regional financial resources – are centralized and decentralized money funds of a purpose-oriented assignment, which are formed in the process of distribution and re-distribution of combined social product and are intended for use in accordance with the tasks of region social-economic development.

The regional financial mechanism – is the whole set of forms and methods of creation and use of financial resources funds in order to provide the population, subjects of farming, state and private structures with different needs. The constituents of this method are the system of financial management system, financial planning and prediction, financial indexes, standards, limits, reserves.

Standards are used in the financial system for making characteristics of certain level and comparative analyses of different kinds of financial resource expenses and estimation of improvement trends of their use.

Limits are definite restrictions upon the use of financial resources in the interests of a territorial community and employers.

Reserves of the financial resources are formed on all levels of farming and management, and are appointed for neutralization of possible negative action, unforeseen factors, which can appear in the future.

Local self-government authorities in the villages, settlements, towns, regions in the towns (if they are created) independently develop, confirm and execute the corresponding local budgets according to the “Law About local self-government” and Budget code of Ukraine.

District and regional boards confirm the district and regional budgets, which are formed from the funds of state budget for their corresponding distribution among the territorial communities for the fulfilment of common projects and from the funds, involved on a contractual basis from the local budgets for realization of common social-economic and cultural programs.

Financially the country supports the local self-government, takes part in the income forming of the local budgets, controls the legal, reasonable, economical, effective budgetary spending and their proper accounting. It guarantees to the local self-government the profitable base, sufficient for the providing the population with the services on the level of minimal social needs. In certain cases, when the income from attached by the local budgets the national taxes and fees exceed the minimal amount of the local budget, the country excludes from the local budget to the state budget a part of excess in order, established by the law.

The minimal rates of the local budgets are determined on the base of the standards of budget provision on a person within the economic, social, natural and ecological state of the corresponding territories according to the level of minimal social needs, established by the law.

The incomes of local budgets are formed due to the proper, established by the law, sources and appointed in established by the law order of national taxes, fees and other obligatory payments. An order of enrolling the incomes to the local budgets is defined by the law about budgetary system and other laws.

Local budget divides into present budget and budget of development. Incomes of budget development are formed due to the part of tax incomes, funds, enlisted form location of local loans, and also investment grants from other budgets.

Funds of state budget, which are transferred in the form of grants, subsidies, distributed by the region boards among regional budgets and budgets of town of regional importance on a scale, needed for the forming of profitable parts not below the minimal amounts of local budgets, defined by the law, and also use for financing from the regional budget of the common projects of territorial communities.

Funds of regional budget, transferred by the country in the forms of grants, subsidies, are included into regional budgets and distributed by the regional boards among the local budgets on a scale, needed for the forming of profitable parts not below the minimal amounts of local budgets, defined by the law, and also use for financing from the regional budget of the common projects of territorial communities.

Funds of the present budget are aimed at the financing of institutions and establishments, which are hold owing to the budgetary assignments, and don't belong to the budget of development.

Funds of development budget are aimed at the realization of program of social-economic development of corresponding territory, connected with realization of investment and innovative activity, and also at the financing of grants and other expenditures, connected with extensible recreation.

The budgetary process at the regional level

The budgetary process – is legal activity, regulated by law, connected with projecting, consideration, confirmation of budgets, their execution, account examination about the budget fulfilment, which make the budget system of Ukraine.

There are four main stages of budgetary process, which systematically repeat every year.

First three stages of budgetary process: projecting, consideration, confirmation of budget make a budgetary planning. *Budgetary planning* – is a complex of organizing and technique, methodical and methodological measures concerning to the estimation of incomes and expenses of budget in the process of its projecting, consideration and confirmation.

Budgetary process has to be examined on a base of the budgetary regulations. *Budgetary regulations* – is a document, in which an order and terms of projecting, consideration and confirmation of budget, and also organization of its execution. Budgetary regulations:

- determine an exact divisions of functions among state authorities and state management;
- constitute the whole documentation, which is used in the budgetary process;

- determine a special order of execution of budget in the case of its belated confirmation;
- determine the responsibility of authorities for infringement of budgetary regulations.
- Regional, town financial administrations work out corresponding projects of regional and town budgets on a base of:
- predictive indexes of economic and social development of Ukraine and administrative-territorial units;
- indexes, which are given by superior executive bodies, and also dimensions between the budgetary transfer;
- materials for the preparation of budget project, given by the state administration, executive authorities of the urban and regional boards of national deputies.

Regional, town and district financial administrations pass the projects for examination of state administration. In a case of agreement regional, town and district state administrations – in the corresponding boards of national deputies. Town budgets of the centralized level are confirmed by the corresponding town authorities of legislative power not later then 2 weeks from the date of the official publication the law about State budget of Ukraine.

An execution of budget – is the fourth stage of budgetary process.

An execution of budget – providing planned income in all links of budgetary system and financing of measures, confirmed in the budget of the country.

Executives of institutions and organizations, who get at their disposal the budgetary assignment (planned amounts, within its boundaries the expenses in budget can be hold), are called the managers of funds.

There are three levels of managers of funds: main, of second and third level.

The main managers of budgetary funds over the local budgets are executives of managements (departments) of regional, town and district boards; for towns, in a town of the district subordination, rural and village budget – the heads of these boards.

Funds managers of the third level are executives of institutions, organizations, enterprises, which are dependent on the main or second level managers of budgetary funds (assignments).

For example, the district educational department is headed by the manager of department, who is the main manager of budgetary funds, he has at his disposal schools, which directors are considered to be the managers the funds of third level, they have right independently control the budgetary funds.

Organization of interbudgetary terms

Interbudgetary relations – are relations between the country and the local self-government concerning the providing with the corresponding financial resources, needed for the execution of functions, foreseen by the Constitution of Ukraine and laws of Ukraine.

Transfer – is money, which is passed from one budget to another one.

From the point of view of kinds of expenses in the local budgets three groups are distinguished:

- 1) expenses for the financing of budgetary organizations and measures, which provide the necessary immediate assignment of social services, guaranteed by the country, and located closer to the consumers;
- 2) expenses for the financing of budgetary institutions and measures, which provide an assignment of the main social services, guaranteed by the country to all citizens of Ukraine;
- 3) expenses for the financing of budgetary institutions and measures, which provide the guaranteed by country social services for separate categories of citizens, or financing of a program, which are of great importance in all regions of Ukraine.

The basis between budgetary transfers in the budgetary code of Ukraine is formed by:

- 1) *subsidy of levelling* – funds, which are passed from one budget to another for the equalization of profitable ability of budget, which gets it;
- 2) *subvention* – funds, which are passed from one budget to another for the achievement of definite aim;
- 3) funds, passed to the state budget and local budgets from other local budgets;
- 4) other grants.

The formula of calculation of transfer amount has such form:

$$T_i = \alpha_i \cdot (V_i - D_i) \quad (11.12)$$

where T_i – is the amount of levelling grant from the state budget, given by the local budgets, or funds, which are passed from these budgets in the state budget of Ukraine;

α_i – equalisation factor;

V_i – calculating index of expenses amount;

D_i – predictive index of income amount (basket of income), which accumulate on the territory of a region.

Predictive index of income account (basket of income) of the local budgets is formed from the incomings of national taxes and fees, attached by the local budgets (Tab. 11.2).

Table 11.2

Incomes, which are assigned to the budgets of the local self-government, are taken into account by determination of quantity between the budgetary transfers.

Tax income	Non-tax income
1. Tax income by physical person (in corresponding part).	1. State fee (in corresponding part).
2. Unified tax (in corresponding part).	2. License pay.
	3. Fee for state registration of subjects of enterprising business.
	4. Fee for trade patent.
	5. Income of administrative penalties.

The calculation expenses amount of the common fund of the local budget (V_i), which is taken into account by the determination the quantity between the budgetary transfers, is determined by a formula:

$$V_i = V_{y1} + V_{z1} + V_{o1} + V_{s1} + V_{k1} + V_{f1} + V_{d1} + V_{h1} \quad (11.13)$$

where V_{y1} – calculating expenditures for the maintenance of control;

V_{z1} – calculating expenses amount for public health;

V_{o1} – calculating expenses amount for education;

V_{s1} – calculating expenses amount for social safety and social securing;

V_{k1} – calculating expenses amount for culture and art;

V_{f1} – calculating expenses amount for physical culture and sport;

V_{d1} – calculating expenses amount for other measures;

V_{h1} – calculating expenses amount for undistributed funds reserve of the local budgets.

11.9. Investment attractiveness and competitiveness of a region

The bases of investment activity in a region, factors of its activation

Investments – are expenses for creation, expansion, reconstruction of the main capital and for connected with it changes of circulating capital.

Investment activity – is the process of investments realization, that is investment of higher mentioned values in the objects of enterprise and social infrastructure.

The purpose of the state investment policy is the creation of competitive environment and providing with structural displacements and economics development due to improvement of investment climate in the country, development and activation of investment processes, directing the investments to the priority branches and programs. There are two *models of state investment policy*: passive and active. *The passive investment policy* expects the limitation of administrative country interference in the process of investment and control realization of investment activity mainly within economic, organizing and legal means. *The active investment policy* is based on the wide use of all, including the direct administrative methods and means of state influence on investment process and investment activity.

Investment attractiveness of a region and its assessment

Investment attractiveness – is reliable and well-timed achievements of the investor's aims on the base of economic results of production, in which investments are made. Investment attractiveness is defined by the system of various factors, which list and effect can be distinguished and changed depending on both the investor base, which pursue different aims, and on the technical and invested production peculiarities.

The necessity in assessment of the investment attractiveness of Ukrainian regions became imminent, it can be realized according to the following generalized indices:

- the level of the regional general economic development;
- the level of the regional investment infrastructure development;
- the regional demographic characteristic;
- the development level of regional market and mercantile infrastructure;
- the level of crimogenic, ecological and other risks.

When assessing *the level of regional general economic development* the potential necessity in investment rates, possibility of investment resources building due to the own sources, combined regional market capaciousness are investigated. For such assessment the following analytic indices are used:

- share of a region in the gross domestic product and produced net material product;
- volume of produced industrial output per head;
- the level of regional self provision with the main food stuff (production volume of the corresponding kinds of agricultural produce per head);
- the average wage level in a region;
- volume and behaviour of capital investments in a region calculating per head;
- the quantity of companies and firms of all property forms in a region;
- share of unprofitable enterprises in a general number of operating companies and firms.

When assessing *the level of the regional investment infrastructure development* the possibilities of a quick investment plans realization according to the following indices are investigated:

- the quantity of the contract building companies and firms of all property forms;
- the local produce volumes of the main kinds of building materials;
- the energy resources production (in re-calculation on electric power) per head;
- the quantity of railway communications calculating on 100 km² of a territory;
- the compactness of motorways with hard covering calculating on 100 km² of a territory.

When assessing *the regional demographic characteristic* the potential demands volume of population for consumer's goods and services, and also the attraction possibility of qualified labour force in invested manufacture. According to this aim the following indices are analysed:

- regional population share in general quantity of country population;
- correlation of town and rural population in a region;
- population share, occupied in the social production on enterprises of all property forms;
- qualification level of the workers, occupied in the social production.

When assessing *the development level of regional market and mercantile infrastructure* the attitude of local self-government authorities toward the market development and formation of corresponding enterprising climate are investigated. For this evaluation the system of the following indices is used:

- the share of privatized enterprises in the general quantity of enterprises of communal property;
- the share of companies and firms of private property forms in general quantity of regional industrial enterprises;
- the quantity of joint companies and firms with foreign partners (juridical and physical person-non-residents);
- the quantity of bank establishments (including the branches) on the territory of a region;
- the quantity of insurance companies (and their representations) on the territory of a region;
- the quantity of commodity exchange (universal and specialized) on the territory of a region.

When assessing *the level of crimogenic, ecological and other risks* the security level of investment activities (later industrial) in a region is investigated. According to this aim the following indices are studied:

- the level of economic crime (according to main types and in general) calculating on 100 thousands citizens;
- enterprises share with dangerous emissions, which exceed the permissible limit norms, in a general quantity of industrial enterprises;
- the mean radiation background in the towns of a region;
- the share of incomplete building sites in a general quantity of sites, started the building during the last 3 years.

The importance (weight) of every index within the estimation of generalized is calculated by an expert survey by pair equation, according to which the set of matrices of pair equation is constructed.

On a base of the quantitative valuation of examined synthesized indices (received by a sum of their grade importance) the integral valuation index of regional investment attractiveness is calculated. Herewith it is taken into account that the separate synthesized indices play the diverse role in taking the investment decisions. Experimentally (side with the thoughts of investment managers) the following importance of each synthesized index in general evaluation of investment regional attractiveness in percentage was determined:

- the level of the regional general economic development - 35;
- the level of the regional investment infrastructure development - 15;
- the regional demographic characteristic - 15;
- the development level of regional market and mercantile infrastructure - 25;
- the level of crimogenic, ecological and other risks - 10.

The evaluation integral index of investment attractiveness of the country regions by acceptance the investment solutions is calculated as a sum of products of grade meaning of each synthesized index on its importance (in percentage):

$$I_{y3az} = \sum (I_i \cdot R_i), \quad (11.14)$$

where I_i – analytic regional index;

R_i – the importance of given index.

According to the meaning of the calculated integral index the concrete regional place as to investment attractiveness in a general composition of regions is determined.

On a base of received estimation results all regions of a country according to the investment attractiveness (i.e. efficiency of investment realization) can be formed in several groups, in particular (Tab. 11.3):

first group – the regions of priority investment attractiveness – efficiency in a region is 35-40% higher, then in country in general;

second group – the regions of the high investment attractiveness – efficiency in a region is 15-20% higher, then in country in general;

third group – the regions are of the high investment attractiveness – efficiency on the index level in the country;

fourth group – the regions of low investment attractiveness – efficiency is 20-30 lower then in the country in general.

Along with the more proved regional diversification of investment activity on a modern level such estimation gives an opportunity:

- to develop the investment strategy of big companies and firms on a long prospect (so far as regional factors have more stable “character” then branch);
- to connect the strategy with the potential of regional consumer markets and markets of production factors;
- to take into account the possible realization period of investment plans in particular regions, according to the development level of their investment infrastructure.

Table 11.3

Grouping the regions of Ukraine according to the level of investment attractiveness

I group Regions of priority investment attractiveness	II group Regions of priority investment attractiveness	III group Regions of low investment attractiveness
Kyiv Region, Kyiv	Crimea, Dnipropetrovsk, Donetsk, Zaporizhia, Lviv, Mykolaiv, Odesa, Poltava, Kharkiv, Cherkasy Regions.	Vinnitsia, Volyn, Zhytomyr, Transcarpathian, Ivano-Frankivsk, Kirovohrad, Luhansk, Rivne, Sumy, Ternopil, Khmel'nitski, Kherson, Chernivtsi, Chernihiv Regions, Sevastopol

Competitiveness of a region and its evaluation

The competitiveness of a region – is an ability of every regional system to direct its competitive privileges, to arrange the productive forces rationally and efficiently in order to provide steady financial and economic environment, to obtain the maximum profit, to meet objective and subjective needs on terms of independence and self-financing, within existing legislation.

The competitive environment forms all regions in a market scope. A region with the most reliable competitive positions has advantages in the market scope, which provides the favourable conditions for effective enterprising and mercantile activity.

An object of competitive struggle between the regional subjects can be the state programs and projects, which connected with a placing and regional development of productive forces, and also with a solution of social problems. By constant resource deficit only those regions can bid for participation in realization of such programs and projects, which have the highest level of reliability of competitive positions.

Thus the consolidation of competitive positions of regional level provides:

- strengthening of regional situation in the territorial division of labour and interregional integration;
- attraction of the native and foreign investments for program realization of arrangement and regional development of productive forces;
- strengthening of foreign economic potential of a region and expansion of a gained segment of world market;
- development of industrial regional infrastructure as an important stipulation of scheme improvement of goods flow and acceleration of turnover of material resources in a process of recreation;
- strengthening of financial credit and budgetary system of a region;
- building and development of regional market system and creation of conditions for their reliable operating.

To the most important competitive positions can be referred:

1. The suitable geographic location and the high transport and settling the territory of a region, which obtains the special importance in the following situations:
 - closeness of the developed in economic sphere regions, capable for the forming of a market scope and commodity resources within the minimal expenses of production and turnover;
 - availability of the suitable transport economic relations with the foreign countries;
 - high development level of interrelated system of railway, car, water and aircraft transport.
2. Availability of highly economic nature resources, which form the interregional and international interests and can be the objects of active investment activity. Of great importance is the level of geological survey and scientific designed foundation and project preparation, connected with a forming of economic grounds aimed at the industrial and agricultural usage of natural resources;
3. Availability in a region of the developed scientific technical potential and scientific information environment. As a result of influence with a scientific technical progress on all elements of productive forces such changes in structure of regional economics are taken place:
 - the influence of extreme factors becomes weaken;
 - the technical economical expediency of complex usage of natural resources is strengthening;
 - the importance of such factors, as environmental protection is increasing;
 - the reliability of economic links is increasing.
4. Balanced budgetary financial system as a guarantee of economic independence and creditworthiness of a region. Economic independence is an active competitive position, when its possible to make solutions of the main problems of social economic development without complex agreement procedure with the superior control bodies, but only – according to determined for this territory priority trend of development. Economic attractiveness of a region is growing within availability of reliable source of the local budget forming and distinct economic legal mechanism of regulation of financial mutual relations between subjects of market relations.
5. Availability in a region of a stable tax system, exact rules of licensing and reliable guarantees for enterprising and investment activity.

6. Availability of the modern market infrastructure and employees, who possess the knowledge, sufficient for effective organization of marketing, financial credit and exchange activity. The market infrastructure can include the divided into branches a net of different structures, which serve the subjects needs of market economy, in particular interceding, trading and selling organizations, financial credit organizations, objects of material technical base, objects, which provide the information supply and law servicing. It is impossible to carry on a business effectively without reliable market infrastructure. Success depends on agreed industrial mercantile links and their financial credit and marketing accompaniment. Concerning the efficiency of functioning the market infrastructure, it depends on the qualification and competence of employees.
7. The favourable ecologic situation, which make a region attractive both for the arrangement of new work places, and for population residence. Its necessary to take into consideration that the larger part of Ukraine is characterized by critical ecologic situation. There is a need for special way to the selection of the most ecologically clean technological systems, and the use of special technique. Any economy on environmental protection measures causes to the losses and decreases the reliability of competitive positions of a region.
8. Availability in a region the reliable foreign economic potential, which is supposed to be the possibility of active part in world agricultural relations. For its realization the following 3 conditions are needed:
 - the production quality, which corresponds the demands NTP;
 - the competitiveness of goods and resources, which obtained the recognition by the subjects of world market;
 - availability of economic terms for attraction of foreign capital and formation of common enterprises and firms.
9. The development of economic infrastructure and outlined ways of its reformation. This principal competitive position makes an influence on the regional condition in interregional and international trade economic relations. Economic structure of a region determines the holding capacity of the inner market and the main ways of import and export of goods and services.
10. The state regional policy concerning regions. By means of the system of guarantees and stimulated factors its possible to strengthen the positions of regions, to raise their meaning for the country in general.

To the main competitive advantages of the separate regions can be referred:

- available reserves of economically profitable separate mineral and fuel resources;
- considerable scales of accumulation of the main production funds in industry;
- the use of the leading technologies in the separate manufacture and industry, which are based on the achievement of the fundamental and applied sciences;
- proper geopolitical stipulations for the development of international trade economic relations;
- availability of highly qualified labour force and educational establishments for its training;
- agricultural economic opportunities for augmentation here in prospect of manufacture the products of agriculture and goods of national use;
- the great academic scientific potential with divided into branches net of scientific research organizations.

Along with competitive opportunities there are limitations and negative factors in every region.

To such limitations and negative factors can be referred:

- extreme stipulations of production and population vital activity;

- weak ecological study and scientific proved preparation of the regional territory;
- low level of production of goods and services and deficient scope of production of the agricultural products;
- remoteness from economic developed regions of a country, absence of developed transport system;
- low quality of production and services, which decrease their competitiveness;
- high economic tense, which produce the serious limitations in a placing and regional development of productive forces;
- deficient development of industrial and social infrastructure as restrained circumstance for investment and creation of new labour places.

Methodical principles of expert valuation of regional competitiveness

Expert evaluation can be established in 10-grades system. Its almost impossible to get 10-grade, but the gap can be reduced due to the improvement of competitive positions owing to the fundamental structural reorientation of regional economic, improvement of transport system, decrease of ecological, energetic and social obligations, financial improvement between the industrial relations, and also the forming of the market and industrial infrastructure, the formation of the proper scientific information environment.

Questions for self-check:

1. Give the definition of the notions “region” and “regional management”.
2. What is the branch structure of a region?
3. What is the functional structure of a region?
4. Enumerate the components of the regional social infrastructure.
5. What is the administrative-territorial system of the country?
6. Which components does the system of state authorities have on a regional level?
7. Which powers do the local state administrations have?
8. Which structural subdivisions form the regional and district state administrations?
9. Which elements does the system of the local self-government have in Ukraine?
10. Which powers do the local boards and their executive organs have?
11. What is the core of territorial planning and prediction?
12. Enumerate the scheme-prediction components of development and the arrangement of the regional productive forces.
13. Enumerate the program components of economic and social development of administrative territory; an order of its elaboration and providing with fulfilment.
14. Which mechanisms provide the management system of regional social economic development?
15. What is a core of state regulation of a regional development?
16. Determine the sources of the regional financial resources. The components of the regional financial mechanism.
17. Enumerate the incomes and costs of the state budgets.
18. What is a core of interbudgetary relations? The calculation technique of the interbudgetary transfers.
19. What is the investment attractiveness of a region and the technique of its estimation?
20. What is the competitiveness of a region and its estimation?

CHAPTER 12. CORPORATE MANAGEMENT

Objective: forming of the systematized complex of knowledge in relation to the basic participants of their mutual relations, features of functioning and adjusting of activity of corporate sector of economy.

Subject: system of corporate management and organizational and economic mechanism of its functioning on micro- and macro levels, forming the mechanism of development of the integrated corporate educations.

Content modules:

Essence of corporate management, its subjects and objects. Functions of corporate management. Forming and realization of corporate interests. Features, organizational and legal signs of corporate structures, their classification. Models of corporations. Public corporate sector.

System of corporate relations. Structure of administrative organs of corporate educations and principles of their functioning. Different levels of complication of corporate structures and acceptance of economic decisions. Planning of corporate structures. Forms of corporate control.

Material, technical, and financial streams in corporations. Corporate culture. Efficiency criteria system of corporate structure and achievement of integral efficiency. Economic potential of corporate association. Management and capital in corporations, methods of estimation of capital.

Appeal of corporate securities. Corporate institutes and problems of ownership rights defense. Government control the corporate sector. Depository system. Corporate audit. Control of actions traffic, role of financial mediators. Risks of creation and functioning of corporate structures.

Features of antirecessionary management in corporations.

Questions, that touch upon the origin and development of joint-stock form of management, determination of essence of corporate management, subjects, objects of corporate case frames, are considered in a given part; reasons of introduction of corporate management standards are identified, certain features of international, national and internal standards of corporate management are exposed, and also the most known standards of international organizations; the rights and duties of shareholders are explained, their influence on a corporate management depending on belonging to this or that group is analyzed; principal reasons of agent conflicts are brought; the specific of corporate ownership pattern is explained.

12.1. History of origin and development of corporate form of management

Today a corporate sector comes forward as a base element of world economy. Exactly the corporations provide more than 50% of world industrial production volume and almost 100% of world trade. Large corporations assist permanent economic progress, increase of living standards and scientific development.

The associations of commodity producers that became the predecessors of joint-stock companies operated practically from the beginning of origin of economic relations.

Development of corporate form of management has a few stages that are characterized by the new quality changes of organization economic activity.

Association of commodity producers in remoteness. Associations that existed only in accordance with will of their proprietors existed already in the middle of II-th millennium B.C. in Mesopotamia in the field of sea-born trade. In Greece permanent marine conflicts and piracy induced merchants to use the lent resources. In course of time this activity began was accompanied by the conclusion of obligatory treaty. Often enough a creditor became the partner of merchant. A few persons who pooled the capital could come forward as creditors.

There were agricultural and productive associations in Old China, Assyria and Phoenicia.

There were the legislatively envisaged principles of the limited liability in old Rome, and profit and losses were distributed to the proportionally inlaid facilities. In addition, in most cases, Romans far-sighted inlaid small parts of facilities in different projects. Due to that all businesses were financed by great number of persons, Roman society experienced large economic shocks not once.

An association of producers in Middle ages. Joint-stock companies are obliged to the Great voyages of discovery of Middle Ages for further development that stipulated powerful development of world trade. Mastering of new markets of raw materials and sale required considerable capital investments. Therefore new scales of trade operations were not on force to the separate businessmen. Therefore as a result of association of capital there were colonial joint-stock companies on trade with East Indies and Africa.

The first joint-stock companies of not colonial type were created in England. The English bank that became the single emission center of England afterwards became the most known joint-stock company of this period. Before 1680 in England 49 companies were founded, shares in which were named "Actions". From 1680 to 1719 40 more such companies arose. Unfortunately, greater part of these companies in further appeared to be the so-called "soap bubbles", that resulted in prohibition of joint-stock pattern of ownership on the large enough interval of time.

The end of XVIII - the beginning of XIX of century. Creation of great number of stock associations in this time was conditioned by two factors: by the achievements of scientific and technical progress and completion of war for independence in the United States. For the past 10 years of XVIII century 259 different corporations were founded (8 from them were industrial, 29 banking, other - trade), and approximately in 1820's such forms of enterprise associations as joint-stock and complete companies almost forced out individual enterprises in England, France, Holland, Italy and United States.

The middle of XIX of century. Further development of joint-stock form of management is related to building and exploitation of railways. Success of Manchester-Liverpool railway assisted the origin of projects of railways almost for all parts of Great Britain. In France emission of actions of railway companies in 1847 arrived at 2,5 milliards of francs, and the real investments in building made the half of this sum only. Sometime later an approximately the same situation occurred in the United States, Russia, Germany.

Considerable profitability of actions of railway companies and high value of service on these actions resulted in mass exchange speculations, namely creation of plenty fictitious joint-stock companies. Exchange speculations with the actions of bogus railway companies at one time took place in the entire enumerated countries and stipulated considerable exchange and economic shocks. At the same time it should be noted that the amount of bogus companies did not exceed the amount of real, however, which in this time formed a really wide trackage. In addition, railway building assisted strengthening of extractive, metallurgical and machine-building industries.

Joint-stock companies in the conditions of capital centralization. This stage began in the end of the XIX century. There are the first signs of monopolization of economy exactly in this time. And then appeared the first forms of economic associations on the basis of actions. The first of such association became a trust "Standard Oil" under the direction of John Rockefeller. In 1905 "Standard of Oil" extracted 1/6 of oil and transported 90% of all oil that was obtained in the USA.

Except "Standard of Oil", oily-linen (1885), vodka, saccharine and other oily-cotton (1884p.) trusts operated in the USA.

In the process of further association of capitals trusts more and more co-operated with different financial structures. So there were dynasties of the American financiers that controlled almost all economy.

Act of Sherman, passed in 1890, and court decisions conditioned by it led at first to weakening, and then, to stopping of existence of trusts in a previous kind.

Holding became the new form of corporate associations that had the opportunity to go round this law. Already 12 large holdings were formed in 1891. During the period from 1898 to 1902 168 large holding companies were organized.

Nationalization of joint-stock companies. The process of nationalization of joint-stock companies began in the USSR after socialistic revolution. In 1920's joint-stock companies existed mainly in trade-productive industry, but at the beginning of 1930's joint-stock companies were reorganized in state associations. In non-productive sphere only two joint-stock companies remained - Bank of foreign trade of USSR and All-union joint-stock company "Intourist". The large association of the allied value of "Ingosstrah of the USSR" was also created in a joint-stock form that became the legal successor of state administration of foreign insurance.

In Western Europe nationalization of joint-stock companies began after Second World War. In England, France, Italy, GFR such leading branches of economy as coal industry, metallurgy, engineer transport, connection, energy and financial institutions were nationalized.

Joint-stock companies in a world economy in the second half of XX century. Today joint-stock companies occupy the leading positions in the economy of the developed countries. Corporations provide development of technologies and expansion of production, and accordingly, an economic development of countries and regions. According the estimations of experts the corporate property is the most effective from the position of bringing in of additional capital investments, possibilities of the use of new administrative methods, increase of the labor and perfection of labor relations productivity.

12.2. Notion and economic nature of corporation

Corporation is a special form of entrepreneurial activity organization that is regulated by the special legislation that fastens a ration property with a right for her free transmission to other participants of corporate relations and also legal status and concentration of administrative functions in the hands of top level professional managers.

Without regard to some differences in determination of corporation in the legal field of different countries corporate form manage has next general signs.

Isolation. Economists and lawyers of the USA under a concept of corporation understand the legal form of business, where proprietors of capital are clearly dissociated from a company management. A property element prevails in the associations of capitals - for participation in them property payment should be contributed. While the personal associations foresee the personal participating in a management, representative office, realization of functions on a production.

Limited liability. Shareholder risks only that share of the property which is listed as a contribution to charter capital of the company.

Centralization of management. A corporation is a legal entity. Thus, the participants of economic activity are not the group of subjects (shareholders), but the only object of right - joint-stock company.

Free transmission of parts of property. The action of open corporation can be freely sold to other proprietor that provides existence of corporation for a long time, regardless of whether her participants can take part in a management.

12.3. Types of corporations

- 1) *The Classic corporate structure* foresees clear differentiation of property and management, opposition of wageworkers to the proprietors of company. It has the spirit of rivalry between the proprietors of capital and hired managers which in course of time are transformed in a fight for control above the separate links of activity of company as well as the activity of corporation in general.
- 2) *State corporations*. The basic line of these structures is that the state comes forward as a corporation. As an example of state corporations can be Germany in 1930's - 1940's and USSR. The features of state corporation are the following:
 - primary objective is not an achievement of maximal efficiency of production, but realization of the tasks put by the state;
 - concentration of efforts on separate narrow directions due to other industries;
 - requirement in enormous investments.
- 3) *Creative corporations* present the type of organization most adequate to the necessities of development of intellectual capital. Creative corporations are formed on the bases of the developed forms of classic industrial companies and combine principles of economic freedom of man, inherent to the classic corporation, with her new uneconomical reasons.

Lines of creative corporation:

- activity of creative corporations in the first turn answers internal reasons and ideals of founders and goes outside financial viability;
- creative corporation is formed round creative personality that guarantees her firmness and development;
- creative corporations do not adapt to the existing market state of affairs and create new segments;
- creative corporations can not only develop, using internal resources but also create the new field for activity of other companies.

12.4. Modern approaches to the determination of corporate management

Nowadays there is not unitary determination of corporate management in world economic literature. Existence of great number of interpretations and approaches to determination of corporate management testifies to the large circle of subjects and relations that fall under its adjusting. A corporate management combines the different participants of corporate relations, each of them cares its own interests, and determines procedures and mechanism of subjects of corporate sector of economy co-operation.

G.V. Kozachenko and A.E. Voronkova indicate the existence of private, public, normative, economic and administrative approaches in relation to determination of corporate management. Interpretation of essence of corporate management in accordance with each of the enumerated approaches is given in a Tab. 12.1.

Table 12.1

Determination approaches of essence of corporate management

Approach	Essence of corporate management
Private (internal architecture)	Choice of the best mechanisms of management and by distribution of property between the different groups of participants of corporate relations
Public (external relations)	Adjusting of relations is between a corporation (corporate the sector of economy) and society
Normative	Formation of legal and regulatory framework and code of principles governing the rights duties and liability of the corporate sector
Economic	A management of economic activity of corporation or corporate sector of economy is with the aim of increasing the efficiency of their activity and balanced development
Administrative	A management of mutual relations the system between the organs of management, corporate officers, shareholders and other interested persons

Therefore, most successful, in our view, is the next determination set forth by the working group of teachers of leading economic and legal higher educational establishments of Ukraine within the framework of project the "International standards of business are a corporate management".

A corporate management is the system of influence on the participants of corporate relationships with the aim of the effective use of the incorporated capital.

Tasks of corporate management:

- creation and providing the functioning of effective mechanism analysis, current and strategic management, acceptance of administrative decisions and control after activity of joint-stock company;
- providing of identical and just attitude toward all shareholders (including to those that own the shallow shareholding and foreign) and possibility of use effective facilities of defense in case of violation of their rights;
- a concordance of interests of shareholders, managers, workers, clients, partners and suppliers of joint-stock company, state and public.

12.5. Subjects and objects of corporate management

Subjects of corporate management are physical or legal persons (groups of persons) that can influence on activity of corporation or are under her influence.

Coming from possibility of influence on activity of most large joint-stock enterprises it is possible to distinguish the next groups of subjects of corporate management : shareholders (physical and legal persons); managers of society; employees; investors (proprietors of other securities of society); creditors that does not own securities of company; financial and trade mediators; suppliers; public organizations that can influence on activity of corporation; public and local self-government authorities.

Basic interests and ways of influence of separate groups of corporate management subjects are given in Tab. 12.2.

Table 12.2

Basic interests and ways of influence of separate groups of corporate management subjects

Subject of corporate management	Interests	The ways of influence
Shareholders	<ul style="list-style-type: none"> - increase of size of dividend - appreciation of value of actions - development and appreciation of value of company - influence is on making decision on a management a corporation - changes of price are on an action 	<ul style="list-style-type: none"> - adjusting of activity of corporation by participating in the general meeting of shareholders'
Managers	<ul style="list-style-type: none"> - wage and bonus rate - types of possible profits - correlation of power and responsibility - level of responsibility - job security - status of company - prestige of work 	<ul style="list-style-type: none"> - acceptance of administrative decisions in accordance with the given plenary powers
Office workers	<ul style="list-style-type: none"> - job security - level of the real wage - terms of labor and rest - social guarantees - possibility of quarry height - level of pleasure work 	<ul style="list-style-type: none"> - influence on efficiency of activity of company by implementation of official duties
Investors	<ul style="list-style-type: none"> - level of investment risk - profit margin - balance investment to the brief-case 	<ul style="list-style-type: none"> - change of demand on securities of corporation and suggestion of financial resources - cost of capital
Creditors	<ul style="list-style-type: none"> - terms of return of account payable - benefits are from a collaboration 	<ul style="list-style-type: none"> - change of terms is at the conclusion of next treaty - abandonment from a further collaboration
Financial mediators	<ul style="list-style-type: none"> - possibility to repay debt - size of percent - rapid motion of financial streams 	<ul style="list-style-type: none"> - terms of cooperation and scope of financial services
Trade mediators	<ul style="list-style-type: none"> - timeliness and reliability of supply - quality of products or services - a presence is after sale service 	<ul style="list-style-type: none"> - change of demand on the products of corporation
Suppliers	<ul style="list-style-type: none"> - regular orders - timely payment - done early registration of orders - forming of terms of dependence 	<ul style="list-style-type: none"> - encouragement is to the collaboration by the grant of discounts, bonuses, additional privileges, free transporting, near-term implementation of orders
Public organizations	<ul style="list-style-type: none"> - defense of natural environment and ecological safety - increase of social welfare - attention is to the public idea 	<ul style="list-style-type: none"> - forming publicly of idea - organization of actions devoted to the guard of natural environment and social measures
State	<ul style="list-style-type: none"> - conforming to the requirements of legislation - providing of employment - a contribution is to economic development - filling of budget 	<ul style="list-style-type: none"> - forming legislatively and normative base - direct or mediated is traffic of corporate rights regulation - management constitutional corporate laws

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Most objects are the corporate governance law.

Corporate rights are the ownership (share) in the statutory fund (capital) entity, including rights management, receipt of a share of profits of such person, and the share of assets in case of its dissolution pursuant to applicable law.

The company has not yet made itself, in isolation from other objects of corporate governance. Therefore, the objects of corporate governance are two other levels - corporate and business forms and methods of state regulation of corporate sector and state owned it. Note the critical role played by the regulatory environment that was created by the purposeful activity of state bodies on legislative and normative support corporate activities. In addition, nearly all countries have public sector which need to be efficiently managed, and part of the sector falls under the concept of corporations (public and nonprofit).

12.6. Standards of corporate management

The modern tendency of forming the standards of corporate management was conceived in Great Britain, USA and Canada at the beginning of 90th as a reaction on the numerous cases of violations in the field of corporate management as a result of absence of effective control mechanism after activity of managers from the side of shareholders.

Reasons of introduction the corporate management standards:

- considerable influence of modern corporations on creation and distribution of GDP and common economic development;
- forming plenty of workplaces and influence on the commonwealth of population;
- an increase of demand on investment resources and necessity of bringing in of new investors.
- insufficient development of legal base for the effective collaboration of all subjects of corporate management.

The structure of corporate governance standards

Corporate governance practices include both international and national experience of corporate governance standards. Classification of corporate governance standards are shown in Fig. 12.1.

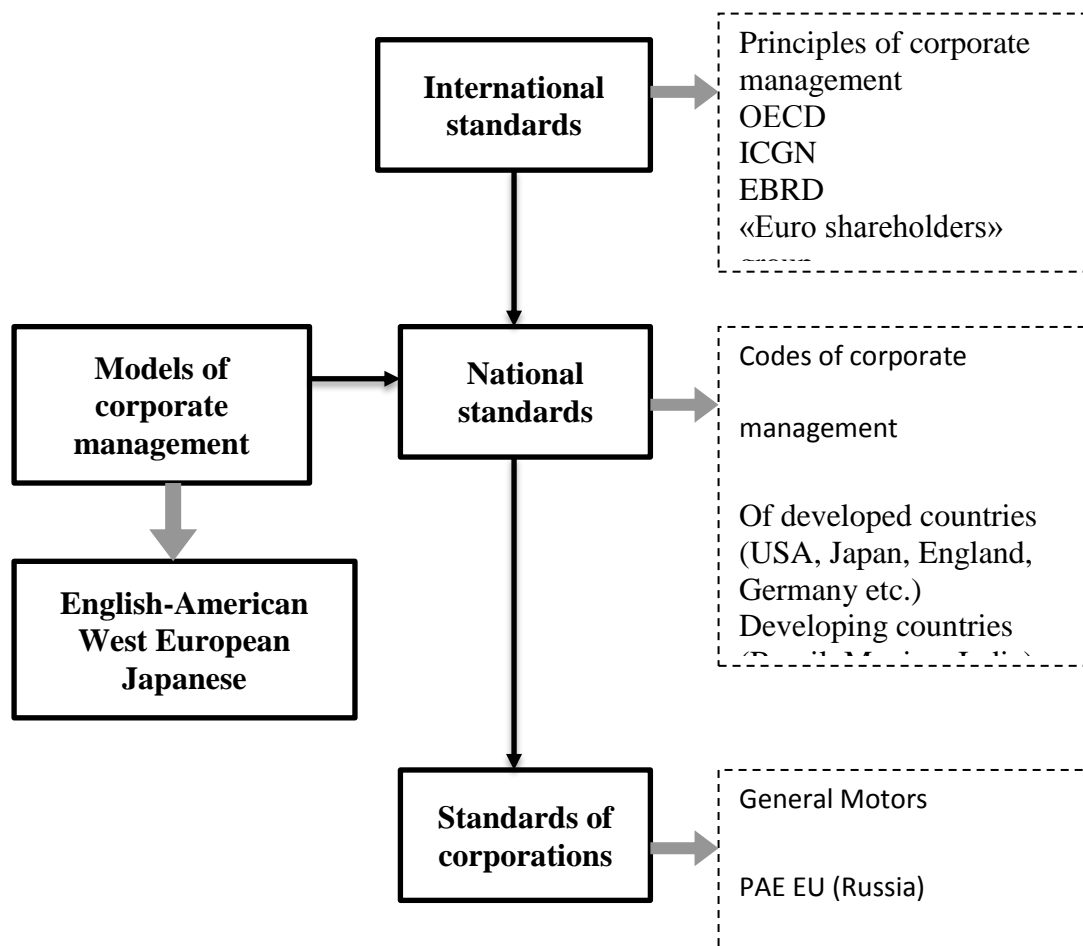


Figure 12.1 – Structure of standards of corporate management

OECD - Organization for Economic Cooperation and Development

ICGN - International Corporate Governance Network

EBRD - European Bank for Reconstruction and Development

General requirements for corporate governance principles

In formation of corporate governance principles attention is paid to:

- 1) opportunities and accounting plenitude given to the shareholders and review broker's of joint-stock company. A review broker's and shareholders must have the opportunity of the effective monitoring of activity of joint-stock company in the order. The board of administration is under an obligation to inform, how major decisions are accepted, including the question of labor payment of leaders, strategic planning, and estimation of society activity. Shareholders must have reliable information about biographies of candidates on main positions;
- 2) establishments of voting procedure and preparation of materials for voting on a warrant. Materials for voting must be clear, short and give adequate information, that allows to make decision on its founding on considered questions. Similar materials must spread thus, to encourage active voice of shareholders in activity of society. Voices must be clearly calculated, and results of voting, regardless of its form (personal or by proxy) promulgated. In opposite case advantage can be devoted to interests one to the shareholders in harm to other, and in the management of joint-stock company there will not be the real understanding that takes place in the environment of shareholders.

- 3) *transparencies of management*. Shareholders must feel confidence in society and information that it gives. In case if a market does not create such level of trust, shareholders will leave off to feel a confidence in its activity.
- 4) *forming their own codes of corporate governance*. These codes are designed to regulate relations with shareholders and the company's obligations to them. Right status codes of corporate governance are different in different countries. In some countries it is part of a package of mandatory conditions that allows companies to sell shares on the exchange. In other countries the code is only commendatory document and does not contain any mandatory requirements.
- 5) *justice*. Joint stock companies, operating in the market, must ensure equal treatment of all shareholders, including foreign ones. They must respect the interests of minority shareholders. The principle of equal treatment of shareholders in corporate governance is provided, especially equal treatment of shareholders owning shares of a class.
- 6) *to the strategic planning*. The members of review broker's and rule of joint-stock company must have long-term strategic vision that, essentially, assists the increase of capital. Positions of separate shareholders in relation to strategy and tactics of joint-stock company can have considerable divergences but they must support a management at critical for society moments, encouraging actions that are aimed at high profitability on long-term basis.

Corporate management principles of Organization of economic collaboration and development

Principles of OECD were signed in 1999. They are intended to help the governments of different countries to estimate and perfect legal, institutional base of corporate management. Principles are sent to the problems that arise as a result of differentiation of property and management.

Principles of corporate management of the European bank of reconstruction and development.

By the aim of principles worked out by EBRD is establishment of the mutual understanding between corporations, investors and creditors during making decision in relation to a grant to the credit or investing of capital by introduction of rational business norms of corporate management.

The indicated principles have universal character, that allows to adapt them to the terms of concrete company of every country taking into account the norms of current legislation. Basic attention in principles EBRD brought over to the relations of "parties" concerned and creation of balance of their interests in activity of joint-stock company. Main customer relations are considered, by shareholders, suppliers, public, state and local power.

Principles of corporate governance group "Euro shareholders"

Another organization for the creation of international corporate governance standards is the European Confederation of Associations of shareholders Euro shareholders (Brussels). Currently a member of the Euro shareholders are eight national associations of shareholders.

The primary objectives of this organization are presentations of interests of shareholders of physical persons in European Union.

Basic tasks of group "Euro shareholders":

- providing of rights for defense of rights for the minority of shareholders;
- transparency of capital markets;
- an affirmative vote by a warrant abroad;
- an appreciation of value of actions of shareholders of the European companies;
- support of questions that touch a corporate management at the level of European Union.

12.7. Models of corporate management

In every country the structure of management joint-stock companies has certain descriptions and component elements that distinguish it from the structures of other countries. Now researchers distinguish four basic case joint-stock companies frames it is the English-American, German, Japanese model and transitional model.

Basic signs or elements of every model are:

- key members of joint stock company or corporation;
- structure of share ownership in a particular model;
- board of directors (or council - the German model);
- legal proceedings;
- disclosure requirements for corporations included in the listing;
- corporate actions in need approval of shareholders;
- mechanism of interaction between key stakeholders.

The formation of a dynamic model of management: corporate governance structure always meets the conditions and peculiarities of the country.

English-American model

It is used in the joint-stock companies (corporations) of Great Britain, USA, Canada, to Australia, New Zealand and some other countries. For its characteristic presence of individual and independent shareholders, is unconnected with a corporation (external shareholders, shareholders-outsiders).

There are next participants of corporate relations in this model.

Managers are representatives of higher link of management corporation, accountable for realization of her strategy.

Directors. This group is presented by both the representatives of shareholders and management representatives that are included in Advice of corporation.

Shareholders, or stock of society holders.

The English-American model develops in the conditions of open market and foresees the division of functions of possession and management in the largest corporations. This aspect is very important from the business and social points of view that is investors, inlaying the facilities, do not bear the legal responsibility for the actions of corporation. They give to the function of management to the managers - wagers of corporation, professional managers and pay to them for implementation of these functions as to the agents on conducting business. Paying for the division of possession and control is named "by agent services".

The interests of shareholders and managers do not always coincide. Corporate legislation in force in countries with Anglo-American model of governance, resolve these contradictions in various ways. The most important of them is elected by the shareholders of the Board, which becomes their agent and starts to perform fiducial obligations, act for the benefit of shareholders when making monitoring functions.

Board of Directors of most corporations in the UK and U.S. are both "internal" members or "insiders" and "external" (independent), or "outsiders". Traditionally, Chairman and CEO of the corporation are one and the same person.

The relationship between managers, directors and shareholders are determined by a number of laws and regulations.

The basis of legislation on rights and responsibilities of corporations in the United States is state law, which established and registered this or that corporation. The USA has the most rigid

rules on disclosure and has a clear system of relations between the shareholders. In other countries that use the Anglo-American model of corporate governance, disclosure requirements are quite high, but not so much as in the U.S. In the United States the annual report or the agenda of annual general meeting (official name: "Message to the shareholders to receive proxy card") include:

- financial information, data about a capital structure;
- a certificate about former activity of appointed directors (the names, held positions, relationships, are with a company, possessing the actions of company);
- size of the salary, paid to the chief executives, and also list about payment of reward each of five most high-paying leaders (their names must be marked);
- given about all shareholders that own over 5% of equity;
- information about possible confluence or reorganization, predictable changes and additions in regulations, and also the names of persons or companies invited for public accountant verification.

In Great Britain and other countries that will use the English-American model, requirements to opening of information are analogical. However accounting is given every half-year and, as a rule, with the less volume of data on all articles, including financial information and information about appointed directors.

In the English-American model there are two actions that require obligatory approval of shareholders - electing of directors and setting of public accountants. There are other extraordinary questions that require approval of shareholders. Among them: confluence and absorption; reorganization, correction, is to the article of incorporation.

There is one important divergence between Great Britain and USA: in the USA shareholders do not have rights to vote in amount of dividends, provided by the Board of directors, but in Great Britain, on the contrary, this question is submitted on voting.

In the English-American model shareholders have a right to make suggestions in an order-paper of the annual general meeting of shareholders'. These suggestions that are called suggestions of shareholders must touch directly upon activity of corporation.

In this model the certain questions of mutual relations of shareholders are clearly outlined inter se and with a corporation. An important place in a management of corporation is occupied by independent and self-governed organizations. Shareholders can carry out voting right, being not present on annual general collections. They have a right to vote by proxy, filling a bulletin and sending it by mail. A shareholder authorizes the president of Board of directors the same to operate for the account of him and be his trusted person.

German (Western) model of corporate governance

German model of corporate governance differs from the Anglo-American and Japanese. It is used in German and Austrian corporations, some of the items in the present practice of corporate relations in the Netherlands and Scandinavia, and applies to certain corporations France and Belgium.

There are four main features of the German model, distinguishing it from other models.

Firstly, the German model provides a bicameral Council, consisting of the Board (Executive Council - corporate officials, i.e. internal members) and the supervisory board (representatives of the workers who serve the corporation and shareholders). These are two completely separate chambers: one cannot simultaneously be a member of the Board and the Supervisory Board.

Secondly, the number of supervisory board established by law and cannot be changed by the shareholders.

Thirdly, the supervisory board must involve representatives of managers and employees who can influence decision making.

Requirements regarding the number of employees and managers involved change depending on industry and company size.

Fourth, in Germany and other countries using the German model, the law limits the rights of shareholders during the voting: the number of votes belonging to the shareholder meeting cannot match the number of shares purchased.

Banks are the long-term shareholders of the German corporations. However, unlike the Japanese model, where the representatives of banks are attracted in Board of directors only in crisis situations, in the German corporations the representatives of banks constantly work in Council.

Thus, in this model bank performs several functions: he performs the role of shareholder and creditor, issuer of securities and debt obligations, depositary and voting agent on the annual general meeting of shareholders'.

Basic shareholders in Germany are banks and corporations.

The rules of uncovering the information differ from that accepted in the USA: financial information is reported one time in half-year, but not quarterly, as in the USA. In Germany the combined data are given about a reward to the directors and managers, unlike individual information in the USA. Information is not reported about the members of review broker's and about possessing the actions of company. In addition, there are divergences between the German and American standards of accounting control.

Corporations are allowed to accumulate some income in the contingency fund and not show it to account "retained earnings" and not pay dividends. In the competence of the shareholders is the distribution of net income (dividends, the use of means), approval of reports of the Board and the Supervisory Board for the last financial year, the election of the Supervisory Board, and appointment of auditors.

The existing legal framework in Germany considers the interests of corporations, banks and shareholders. In general the whole system is oriented to the main participants of corporate relations. However, much attention is paid to the minority of shareholders.

The features of this model of corporate governance are:

- strategy for long-term control of the corporation;
- dual role of banks (as creditors and shareholders of both);
- domestic institutional investors (Western European companies) have the largest stake corporations;
- legalized restrictions on voting rights of shareholders, that the statute limits the number of votes of the enterprise, which has a shareholder meeting, and may not coincide with the number of shares he owns;
- two-step structure, consisting of the executive (corporate officials) and supervisory (workers \ company employees and shareholders) of the Council;
- include representatives of workers and managers in the supervisory board;
- accordance with the law of the supervisory board.

Japanese model of corporate governance

Corporation of Japan is sufficient, Universal Consumer economic systems, the structure of which includes financial institutions (banks, insurance and trust companies), trading companies and manufacturing plants that make up the full spectrum of industry. Wide use of borrowed funds by corporations is one of the reasons of Japanese economic achievements. Therefore, necessarily a member of the corporation, its core is the main bank, which controls a large network of branches

and subsidiaries. Almost every Japanese corporation has close relations with its key bank. Bank offers loans to corporate clients and services with bonds, equities, conducting settlement accounts and consulting services.

Key Bank and keiretsu are two different but complementary one element of the Japanese model.

Keiretsu is a group of corporations that jointly own the borrowed funds and proper capital.

The main feature of corporate governance in Japan is the attitude toward property as a collective (institutional), and not as a private possession. The incentive in the Japanese economy is a moral and social aspects, such as public acceptance, impact on the government and the public a positive image of patriotism and corporations.

A special role of the state is typical for the Japanese model of corporate governance. From the 30's of the XX century Japanese government carried out active economic policies to assist corporations. This policy involves formal and informal representation in the Council of Government corporations, where stock company is in desperate condition.

Key members of Japanese model:

- The main bank (the main shareholder internal);
- Associated with the company (affiliated) company or keiretsu (another internal shareholder);
- Board of Directors;
- Government.

The board of directors of Japanese corporations almost entirely is composed of internal members, i.e. executive directors, heads of major departments of the company and the Board. If volume decreases profits for a long period, the main bank and keiretsu States may exempt from the position of directors and appoint their candidates. Another familiar phenomenon to Japan is the appointment of retired officials of various ministries and departments on the boards of corporations.

The Japanese model of the Board of Directors depends on the financial condition of the company. In the Council of rare representatives of independent shareholders, the number is usually higher than in the U.S., UK or Germany.

Disclosure requirements in Japan are quite strict, but in fact such as in America. Corporation must provide: financial information, data on capital structure, a certificate of directors appointed by the former activity (including names, position, relationship with the company, shareholding company); salary, payable executive directors, and information about payment remuneration of each of the five most highly paid executives (their names should be specified) data for all shareholders owning more than 5% of equity, information about the possibility of a merger or reorganization, the anticipated changes and amendments in the charter and the names of persons or companies , for the requested audit.

Disclosure procedures in Japan have some differences. Financial information is given every six months, and in the U.S. - every quarter.

In Japan the total amount of remuneration is reported only to managers and directors while in the USA - to every person. The same applies to the list of big owners: in Japan it is ten largest shareholders, while in the USA - all shareholders who own more than 5% . In addition there are differences between Japanese and USA financial reporting standards. The usual range of issues, that require shareholder approval, includes: dividend payment and disposition of funds, elections to the board of directors and appointment of auditors.

Furthermore, without the consent of shareholders the following issues can not be resolved: issues concerning funds of corporation ; statute amendments , severance pay to directors and

auditors. The extraordinary actions of corporation, which require shareholders' approval are merger, acquisition and reorganization.

The characteristic elements of models are shown in the Tab. 12.3

Main characteristics of corporate governance models

Models	Anglo-American	West European	Japanese
1. Countries of distribution	USA, UK, Canada, Australia, New Zealand	Germany, Austria, Netherlands, Scandinavia, France, partially Belgium	Japan
2. The essential characteristic	Broad representation of individual and independent shareholders (outsiders). Great role of fictitious capital market. Availability of investment and commercial banks. Clearly developed legislative framework.	The key role of banks. The management structure is on the basis of banks contacts and corporations.	Focus on intercorporate and banking control, representation. The legislation supports <u>keiretsu</u> (系列) (group of corporations, joint by co-ownership loan funds and equity)
3. Participants of the model realization	<ul style="list-style-type: none"> - Shareholders - Heads - Board of Directors - Exchange - Government 	<ul style="list-style-type: none"> - Bank - Board - Supervisory Board - The workers 	<ul style="list-style-type: none"> - Key bank - Financial and Industrial Network - Affiliated corporate shareholders - Board - Government
4. The structure of shareholding	Advantages of individual and institutional investors.	Benefits of banks and corporations (both related and unrelated). Financial institutions control over 60% of corporate shares	The absolute advantage of affiliated banks and corporations. Financial institutions control more than 70% of corporation shares. The representation of foreign shareholders is insignificant.
5. Monitoring of activity	Mainly market (with a help of market signal functions of fictitious capital)	Mainly bank on a regular basis.	Mainly bank and intercorporate.
6. Financing	Remote - via the stock market. Advantages of domestic sources financing.	Oriented towards control (indirect) - based on control investment decisions. Adequate representation of bank lending among funding sources.	
7. Structure of the board.	Insiders - people who work in corporation or closely connected with it. Outsiders – people, who are not directly connected with corporation. The number – from 13 to 15 people.	Two-chamber board of directors. The supervisory board appoints and dismisses the government, approves its leaders' decisions. The number - from 9 to 20.	The board almost completely consists of insiders. The State may also designate its representative. The quantity - up to 50 people
8. Legislation framework	In the USA : state statutes, federal laws, Securities and Exchange Commission. In the UK: Acts of Parliament, the Board of Securities and Investment	Federal and local laws, Federal Agency on Securities	Practically copied from American model. The Government traditionally affects corporations' activity through its representatives.
9. Information disclosure requirements	For the USA : quarterly and annual report, which includes information on directors, shares ownership,	Semiannual report with mentioned capital structure, information about shareholders that	Semiannual report with information about the structure of capital, members of Board of

	salaries, information on shareholders who own	own more than 5% of the corporation,	directors, salaries, information about
Table 12.3 (continued)			
	more than 5% of shares, information about possible mergers and acquisitions. In the UK: semiannual reports.	information about possible mergers and acquisitions.	apprehended merger, statute amendments, the list of top 10 shareholders of the corporation.
10. Actions that require shareholders' approval	Elections to the board of directors and appointment of auditors, share issue, mergers, acquisitions, amendments to the Statute. Shareholders in the USA have no right to vote for the dividends, but in the UK this issue is to be voted.	Income distribution, ratification of the supervisory and management boards decisions, the elections to the supervisory board.	Semiannual report, which contains the information on capital structure, members of Board of directors, salaries, information on apprehended merger, statute amendments, the list of 10 largest shareholders of the corporation
11. Interrelation between participants	Shareholders may exercise their voting right per post or per procuracy. Institutional investors watch the corporation activity (including investment funds, the auditors).	The majority of German corporations shares are bearer shares. Banks manage their vote with shareholders' consent. Absentee ballot is impossible. Shareholder can personally attend he meeting or commission the bank with this right.	Corporations are interested in long-term and affiliated shareholders. The Annual Meetings of Shareholders are formal.

The transition model of corporate governance

Countries with transition economy, including Ukraine, Russia and other countries of Central and Eastern Europe have not developed a stable model of corporate governance. The most important factors, which determine the direction of corporate governance development in these areas are:

1. Providing effective mechanisms for restructuring of the economic system from an administrative to the market.
2. The banking system in Eastern Europe is still quite imperfect, and the banks are unable to be significant shareholders, as well as exercise control over corporate activity due to the lack of managerial experience in corporate property management, sufficient investment capital, experience in credit evaluation and control over the borrowers.
3. Privatization processes in Eastern Europe and particularly in the countries of CIS were mostly slow and spontaneously with violation of owners rights. After privatization, it became clear that new owners were unable to administrate the enterprise restructuring, that's why the development of new joint stock companies was slowed down.
4. Legislation framework in the countries with transition economy is still being formed, so the slow tempo of reforms is largely stipulated by the lack of adequate laws and legal regulations concerning administration of joint stock companies, stock market, cooperation and conflict resolution among all stakeholders. Moreover, these countries have to perform the reformation of the state regulation of property relations, legal, banking and judicial system.
5. People in the former countries of Soviet Union don't have trust in corporate form of property. That's why it is almost impossible to draw assets both domestic and foreign investors for development of financial and business activity of corporations, that leads to failures in their

activities, conflicts of interest of all participants in corporate relations and deterioration of economic situation on the whole.

6. State is a shareholder in the majority of privatized enterprises .Using state mechanisms of influence (taxation, licensing, various types of control, etc.), it implements the state's interests contrary to the interests of other shareholders and the corporation itself, violates the principles of corporate governance (for example: upon charging and paying dividends).
7. The vast majority of corporations are in extremely difficult financial and economic situation, because the privatization was not preceded by industrial, financial, personnel and marketing restructuring of enterprises.

12.8. The status, rights and responsibilities of shareholders

Shareholders are individuals who own shares of stock in a joint stock company. Individuals, legal persons or state may be shareholders.

In order to become a shareholder one may establish a joint stock company or purchase shares of the existing one.

There are two groups of shareholders' rights: property and non-property (Tab. 12.4).

Table 12.4

Shareholder's Rights

Property	Non-property
The right to receive dividends.	The right to participate in the management of joint stock company.
The right to the disposal of shares	The right to receive timely and regular information on the activities of the company.
Preferential right to receive shares of previous issues.	The right to protect own interests.
The right to obtain money and property left after settlements with all creditors in the event of liquidation of the company.	The right to secede from the company.

Shareholders' responsibilities:

As a rule, the members of joint stock companies are obliged:

- a) to adhere to foundation documents and execute the decisions of general assembly and the machinery of government;
- b) to fulfill its obligations to the company, including those related to the shareholding, as well as to contribute (pay equity) at the rate, manner and means stipulated by the foundation documents;
- c) not to divulge commercial secrets and confidential information about the company;
- d) to carry other obligations, if they are provided by the legislation framework of the host country or by the foundation documents of the company itself.

12.9. Shareholders' impact on corporation activity

Shareholders take an important part in corporate management. From the point of view of management they are divided into following groups (Tab. 12.5).

The following features are inherent in the above mentioned groups of shareholders.

As a rule, the owners of common shares can take part in corporate governance.

Holders of preferred shares have the right to receive dividends and priority in distribution of company property in the event of liquidation. They have no right to participate in the management of joint stock company, unless otherwise is stipulated by its statute.

Individuals, who purchased a small number of shares on the certificate auctions practically, have no impact on the work of the JSC. This particularly applies to those who are shareholders of companies located outside the residence of the shareholder.

Table 12.5

The classification of shareholders according to the corporate governance

Determinant	Types
The ability to participate in management	- the owners of common shares; - Holders of preferred shares.
The size of the stake	- minority shareholders; - owners of large block of shares.
In relation to the corporation	- Interior shareholders (insiders): <ul style="list-style-type: none"> • Heads; • Workers; • External shareholders (outsiders).
Correlation with JSC	- Shareholders associated with JSC (banks, lenders, suppliers, customers, resellers, etc.). - Shareholders who are not related to the JSC (minority shareholders, financial intermediaries, owners of large stakes, state).

The practice shows that the leading role in corporate governance play: JSC managers, financial intermediaries, other legal entities and owners of large blocks of shares.

Depending on the degree of influence and interest in a stable work of the JSC distinguish two main groups of shareholders, which are most important in corporate governance. These are domestic shareholders (insiders) and external shareholders (outsiders).

Internal stakeholders are shareholders who are employees of the JSC. The interests of this group of shareholders are quite controversial. On the one hand, as shareholders, they are interested in the increasing of company efficiency, on the other hand, as employees, they are interested in preservation of working positions, payment and rise of wages, which are usually the main source of income.

In its turn the internal stockholders are divided into two groups: managers of the JSC and other members of the team, whose interests do not coincide.

Managers of the JSC and persons related to them, generally seek to obtain control over the votes of other members of the staff by means of purchasing shares. The management can also consolidate holdings of other members of the staff by creating a closed joint stock companies whose shares are distributed among members of the staff and paid in shares of open joint-stock company.

Because of low efficiency of the majority of the JSC, lack of dividend payments or paying them in small amounts, shareholders prefer the interests of workers over the interests of owners.

External shareholders are divided into the following main groups: unrelated (independent) shareholders and related shareholders.

Independent shareholders are shareholders, who are not associated with the activities of the JSC. These are individuals and legal persons, who bought shares using different instruments of privatization or shareholders – the former employees of the JSC.

Minority shareholders are individuals who bought shares through the centers of certificate auctions. Their influence on corporate governance is insignificant. But due to their large number

(there are about 18 million of minority shareholders in Ukraine) it is necessary to analyze this group.

Big shareholders are physical and legal persons who acquire shares in order to establish control over the activities of joint stock companies. Thus, there is a process of concentration of shares in fewer shareholders.

The authorities of privatization play an important role in solving corporate governance issues. As the largest shareholder, the state can play an important role in management of joint stock companies and supervisory boards.

However, the lack of legal regulation of rights, duties and responsibilities of state and supervisory board representatives, their legal exposure lead to low efficiency of their activities.

Related stakeholders are shareholders, who are closely connected with the activities of the JSC on a contractual or legal basis. They are divided into financially and technologically connected shareholders and others.

In developed economies strong external control, especially of the part of financially related stockholders, is an important principle of corporate governance.

To the financially related stakeholders belong: shareholders-banks, that credit to the issuer; shareholders-owners of enterprise bonds. In developed countries, financially related stakeholders take an active part in governance, because they take a big risk. As opposed to other shareholders who risk only to lose funds invested in shares, they risk to lose not only their actions, but also issued capital and granted loans. The level of control over the company from financially related shareholders is relatively high, because it consists of corporate and credit control.

Technologically related shareholders are:

- Shareholders - suppliers of raw materials, building materials, components, semi-manufactured goods etc.
- Shareholders – customers, who buy products of given JSC for industrial purposes. Such shareholders are interested in a long-term cooperation and as financially connected stockholders - in a stable work and development of the JSC.

Shareholders have an exceptional role in decision making. It manifests itself by a voting on the general meeting. The significance of stockholder depends on his share in statutory fund: the more shares he has, the more dominance he receives. Depending on the size of shareholding owned by shareholders, their participation in corporate relations and corporate governance, the following principles can be distinguished.

An important element of corporate governance is the structure of shareholdings. Shareholding structure is a correlation between the shareholders or groups of shareholders who own different in size block of shares.

Shareholder is the owner of shares belonging to him. He has full ownership of shares, which means that he can own, use and dispose of them. Shareholding provides him with a number of rights, including the right to participate in the management of JSC, the right to share in distributions of the company's income in the form of dividends and the right to a company's assets during the liquidation of the company.

If the financial and economic situation of the JSC is stable – there is no need for shareholders to interfere in current business. They don't have to recruit specialists, buy and sell assets, change membership of the Board of directors or the Supervisory Board, change the strategy of the company. But in cases of worsening financial and economic situation of a JSC shareholders - members of the supervisory board should assume measures for crisis prevention.

12.10. Managers against the owners, or agency conflicts

A distinctive feature of efficient corporate management is not only professional hired managers, but also the coincidence of their motivation with the interests of owners.

In theory, managers usually meet interests of owners. But in practice, the situation is quite different: their interests do not only coincide, but they often contradict each other.

The point is that while making management decisions personal interests of managers predominate over interests of owners. Managers, first and foremost, are anxious about stability of their position, increase of their income and reduction of dangerous unforeseen circumstances.

Meanwhile, shareholders are interested in a rise of profit of their company and high market value of its shares. That is why they tend to support decisions that promise high profits, even if they are connected with hazards.

Similar conflicts between managers of corporations and the owners were called agency conflicts (Tab. 12.6).

Table 12.6

Main types of agency conflicts

Problem	Owners	Managers
The image of the corporation	Expediency	Desire for luxury
Investment terms	Long-term investment	Short-term investment
Attitude towards risk taking	Take the risk on decisions made by hired managers	Absence of profit responsibility for taken decisions
Efficiency of profit appropriation	Receive profit in the form of dividends or capitalization, at the rate not below the acceptable one.	Try to increase their personal welfare and influence on the company
Attitude towards corporation	View corporation as one of the income source.	View corporation as a single income source.
The desire to take control over corporation	The owners of large stake have a strong desire, while minority shareholders have a weak desire or don't have any at all.	Strong
Incentives for mergers and acquisitions	High profit; preservation or rise of achieved influence	Rise of own influence and status.
Attitude towards sale of the company	Positive, if they receive high profit	Usually negative
Desire for fulfillment personal expenses on account of the corporation	Depends on the share of the stockholding: the bigger share the weaker desire	Strong

Providing tax authorities with insider information. With all the necessary data inspectors can easily find a violation and refer the matter to the law enforcement body.

The shareholder may also apply to the law enforcement authorities, which are obliged to consider all complaints and carry out inspections of these facts.

Submission to the Anti-monopoly Committee. If the agreement on the purchase of shares exceeding 25% is not consistent with monopoly Committee, the Company may be fined a large sum of money.

Resort to the court with the demand to admit agreement for the purchase of equity as untitled one. Having at least slight grounds, the court may start legal investigation. As a result, the given equity may be blocked pending the clarification of all circumstances and its owner will be unable to take part in general meeting of shareholders.

Blocking the general meeting of shareholders. If a shareholder points out at least one or more reasons (lack of notification, the violation message terms, failure to provide information), he may apply to the court and require the prohibition of the general shareholders meeting. If there will be a few of such shareholders and they coordinate their efforts, interested persons have little chances to carry out legitimate meeting.

Managers use various methods seizure of power. Manipulation of shareholders interests allows managers to take control over the JSC. In particular, these methods include: record of securities, which belong to the employees via putting them in statutory fund of newly established companies; cooperation with each other or with a group of large or medium-sized shareholders, etc. All these methods are relatively well known among both managers and shareholders, which in some cases may take preventive measures. That's why, nowadays is more popular to use methods of control based on peculiarities of JSC management.

Methods of gaining control over JSC.

Minimization of expenses. The most popular method to gain control over JSC is to transfer its capital assets to business partner in financial leasing. It is almost impossible to object this operation in the court. As a result, shareholders possess nothing except for the trademark.

Another way to withdraw property out of shareholders' control is based on taxes minimization by transferring part of the production cycle to corporate entity, which has tax deduction. Without a part of capital assets JSC can't produce finished products and needs significant investments.

Experts consider, that the transfer of assets in such a way allows company management and its commercial partner to dictate other shareholders certain conditions. The company, which shut a key element in the production cycle may be minority shareholder of JSC, but its opinion would be more important than opinion of a strategic investor.

Control through bankruptcy. The essence of this method lies in the initiation of bankruptcy by the management through the plots with one of the creditors. This allows to get temporary control over JSC without attracting significant financial resources and at the same time to reduce to zero the signs of false bankruptcy.

Additional possibilities for JSC management are given by the Law of Ukraine "On restoring solvency of the debtor or recognition of his bankruptcy. If lender brings a suit with request to declare enterprise bankrupt, he may reduce the amount of tax due to the increase of total costs on the accounts payable.

Besides, bankruptcy petition allows to put an end to privatization process. It gives more opportunities to gain control over attractive asset, which have been previously privatized.

Dilution. Another method of acquiring control over JSC is an additional issue of shares during the period of rehabilitation. Hereby the turnaround manager may be one of the shareholders, who owns a large but not controlling interest.

According to current legislation, shareholders have a preferential right to purchase additional equity. However, those shareholders who were not prepared for such a situation, may not possess a sufficient sum to purchase a proportional share. In order to receive necessary funds, JSC gives turnaround manager additional block of shares. As a result, the authorized capital of JSC increases while shareholders share reduces. The initiator of such a scheme may be management together with one of the shareholders involving the "friendly" creditor.

Tax pled. Generally, this method is used in conflict situations between groups of shareholders or between shareholders and management.

This method is applied if the supervisory board of JSC can not pass a decision according to "preservation of assets" in the company. The application of this method depends on the current economic activity of the enterprise. As a result of deliberate nonpayment of taxes all assets of the company pass to tax pledge and disposal of assets without the permission of tax administration becomes impossible.

The transition of JSC assets to tax pledge is attractive for shareholders not only of its efficiency but because it gives additional time to find way out of conflict situation. Sometimes this delay is enough to find a compromise or other method of influence on shareholders - rivals.

12.11. Types of corporate securities

Share (ukr. aktsia - from lat. actio - order, claim) is a permanent document, which confirms owner's right for the part of the joint capital.

Under conditions of developed stock market shares perform several important functions:

- accumulate and attract to business disposable financial capital;
- ensure the free movement of investment resources and improve their effectiveness;
- act as an objective indicator of capital distribution by fields, sectors and activities;
- create a flexible mechanism for changing the subjects of ownership;
- promote democratic management of business entities, perform as means of financial control on the part of the co-owners;
- provide investors with an income source that is higher than the deposit rate.

Types of shares

Shares as securities have their own signs. According to the basic characteristics shares are classified in:

- *nominal and ordinary;*
- *common or preference;*
- *with the voting right or without ("dumb");*
- *with par value or no par value.*

Shares, which have several voting rights, are seldom issued. For example, in Germany issue of such shares may be allowed only by permission of the relevant Minister of Economy of the Federation (federal state) and only for those JSC, which are of particular importance for the economy.

In some countries (e.g. Germany) shares, according to the time of issue, are divided into "new" and "old". They differ only in the first year of the "new" shares issue. The difference lies in different quotations and amount of dividend payment (dividends for new shares are paid only for the period of their circulation in the stock market rather than for the whole year). With an expiry of one year "new" and "old" shares become identical

Under the form of existence shares are divided into paper (certified) and uncertified (their peculiarities are defined by the Law of Ukraine "On National Depository System and Peculiarities of Electronic Circulation of Securities in Ukraine").

Certified form of share as security –is a paper form with certain details. Shareholder may receive a certificate for several shares.

Uncertified form of share - is an account, which confirms share ownership. Depository may be just JSC-issuer or by agreement commercial bank or broker.

According to the legislation of Ukraine Joint Stock Company may offer shares of two types - ordinary and preferred. Company's statute may provide placing one or more classes of preferred shares that give their holders' different rights.

JSC cannot impose restrictions on the number of shares or votes of the shares owned by one shareholder.

Ordinary shares cannot be converted into preferred stock or other securities of the company. Part of preferred shares in authorized capital stock company may not exceed 25 percent. Since November 2010 all company's shares in Ukraine must be nominal and exist only in uncertified form.

According to the field belonging shares are divided into: shares of new industries are shares of companies, which begin put into practice science and technology achievements.

Shares of growing enterprises are shares of companies that have achieved average level of development. As such companies prefer to finance scientific researches, enlarge scale of production and marketing outlets, the dividends on their shares are usually small.

Income shares are JSC shares, which dividends exceed average one. Typically these companies are engaged in communal public services (water, gas, energy), which are always needed. Such joint-stock companies are stable and have apprehended income sources.

Blue Chip Shares are shares, which are issued by most recognized and financially sound corporations (IBM, General Motors). Such companies have a good reputation among investors and pay dividends stably.

Cyclical industry shares - the prices on these shares rise and fall simultaneously to a recession or recovery in the economy, which is in accordance with rhythm of business activity. As a rule, these are shares of basic industries in the economy - heavy (especially metallurgical), automobile, pulp and paper industries, and others.

Speculative shares - typically shares of newly established companies. Prices on such shares are low than on shares of well-known companies. Buying such shares an investor must understand that the low price is connected with a high risk.

Bond is a debt security, in which the authorized issuer owes the holders a debt and, depending on the terms of the bond, is obliged to pay interest.

Corporate bond is an obligation of JSC to bondholders to pay certain income and repayment of their nominal value after a certain period.

Convertible bond is a debt security with peculiar rights. Along with the usual right on cash claim, it gives the right to exchange for shares of JSC, which issued these bonds.

The right to convert is considered to be an investor's privilege, that's why conversion is performed only on bondholder request. Income (interest rate) on such bonds is established usually lower than on conventional bonds. After exchanging bonds for shares, the right to return fixed capital on bonds and receive interest income is canceled. Bonds that were converted before the end of their validity, are paid as usual.

Eurobond is a foreign issuer bond, nominated in the host country currency and intended for distribution among international investors. Investors almost of all country can buy them.

Euro securities –are long-term (calculated for at least 10 years) bearer securities with a fixed interest rate. The main advantage of Euro securities for its issuer is that their maturity date exceeds repayment date of the loan.

Option - a standardized contract, which entitles its holder to buy (call option) or sell (put option) a security or other financial asset at an agreed-upon price during a certain period of time.

Warrant is a kind of call option, which is produced by the issuer with its own preferred shares or bonds and allows its holder to purchase common shares of the issuer during a certain period of time at an agreed-upon price.

Bill is a debt obligation, which gives its holder an absolute right to demand from bill drawer (promissory note) or from acceptor (draft) bill payment after maturity period.

Warehouse receipt is a kind of securities issued by the custodian (warehouse) to provide proof of ownership of commodities that are stored. The issue of warehouse receipt doesn't require state registration or registration of prospectuses. The majority of warehouse receipts are used to obtain collateral loan.

12.12. Operations with corporate securities

Emission (primary and secondary) is the main operation, which provides the corporation with financing sources. This type of emission is called production because it creates conditions for investment and production activity of issuers. Production emission of shares is carried out in the following cases:

- while establishing new JSC;
- increase of the authorized capital of JSC;
- conversion of a closed JSC into an open one.

Emission income - income received from selling shares at a price higher than the nominal.

Emission of debt securities (corporate bonds) is usually put into practice after decision to raise additional capital through bond issue.

Implementation of corporate securities depends on their investment attractiveness, which is reflected in investment ratings. Ratings are very important both for companies-issuers and investors.

In ratings the securities of companies are divided into classes depending on the quality of non-payment risk - from highest to lowest. In addition to that, various indicators such as: solvency, capacity and structure of the debt, stability of cash flows, assets profitability of the company -issuer and others are taken into consideration. But still there is no constant formula for rating calculation.

Purchase of JSC its own shares. Joint stockcompany may redeem its own shares for further resale, distribution among its employees or cancellation. According to domestic law this operation can be undertaken only by means of sum, which exceeds the statutory fund; redeemed shares are to be implemented or canceled within a year. Income distribution, voting and ascertainment of quorum at a general meeting of shareholders are performed without taking into consideration own purchased shares.

The main reasons for companies to buy their own shares:

- 1) For the company, purchase of own shares may be an alternative to dividend payments. Thus shareholders who retained their shares, will own a bigger share of company assets. Thus, their welfare will not decrease, if the company substitutes dividend payment for giving shares. In addition, they have a choice: to sell additional shares at a market price, pay taxes and get money if they need now, or just keep them. Under certain conditions it is more profitable for shareholders to receive shares instead of dividends.
- 2) The presence of strong cash flow of a current year. In order to maintain stable dividend policy and avoid the risk of dividend decrease, managers distribute assets in the form of redeemed shares.
- 3) During the period, when the prices on the shares decrease, the company through the purchase of large stakes tries to raise their price. Usually, purchase of own shares helps to gain investors'

credit, as a result price on shares rises. But there is a danger, that if JSC suspends redemption of shares, price on them may drop again. According to above mentioned, the company should have own shares in stock for that time, when owners of options and warrants issued on its shares and bonds, can exercise their rights. Thus, the implementation of options and warrants enforces the company to purchase its own shares.

Share dilution is increasing the number of shares by replacement one share by a few. For example, dilution 3 to 1 means that each share is replaced by three. If the share has a nominal value, then dilution is followed by the reduction of their nominal value. In the above mentioned example, its value is reduced threefold. Share dilution is appropriate when share price is high, that is not convenient for retail investors. Sometimes share dilution is advantageous for shareholders, because the market does not always respond to the increase of shares in number by rising their market price. If share price doesn't reduce threefold, shareholder receives three times more shares, which he may sell and receive additional income. As a rule, share dilution does not influence the total income of the company and doesn't increase its financial resources, but share income in the circulation decreases. The procedure of share dilution is frequently applied.

Share consolidation (or reverse split), is reducing the number of shares in circulation by replacing a certain number of shares by one (e.g. three old shares for new one) with a corresponding increase in the nominal value of shares. The reason is that stock-exchange may establish restrictions for the minimum price per share; reverse split may increase share price to that minimum.

Questions for self-check:

1. Describe the main preconditions of beginning of joint stock companies.
2. Name the main features of the corporation.
3. Discover the essence of the "corporate governance".
4. What does term "corporate rights" mean?
5. Describe the Anglo-American, German and Japanese models of corporate governance.
6. What qualities are inherent for transition model of corporate governance?
7. Name the main reasons for implementing corporate governance standards.
8. Describe the structure of corporate governance standards.
9. What international organizations are involved in creating standards for corporate governance.
10. Name property and non-property rights of shareholders.
11. Name the main points of "agency conflicts". What are the main reasons for agency conflicts.
12. What are the main functions performed by corporation stock?
13. What are the reasons that motivate the company to buy its own shares?
14. When is dilution necessary?
15. How can change the price per share in the event of consolidation?

CHAPTER 13. PROJECT MANAGEMENT

Objective: *the forming of a systematized knowledge complex concerning the general principles, forms and methods of project management; the acquirement of theoretical knowledge and practical skills, required in the project processes, project teams, and project organizations management.*

Subject: *the basic regulations, principles, methods of organizational management in the field of designing, project works management methods, the development and rationalization of project organization management.*

Content modules: *the term “project” concept and definition; designing phases, including: project organization strategy integration; project objective selection; network plan development; risk management; project execution time reduction; resource scheduling; project organization; project management; project team management; project partnership; execution state and the progress of works measuring and estimation; the audit and close-out of designing; international projects. Project life cycle models; the improvement of the project life cycle management process. modern project-oriented company features; the company requirements of modern environment.*

13.1. The essence and importance of project management

The concept and importance of project management. The well-known Lerman’s Law states: "Any technical problem can be overcome given enough time and money", and its corollary specifies: "You are never given enough time or money". It is precisely to overcome the problem stated in Lerman’s corollary that the project-based procedure of activity management was elaborated. It is these three points: time, budget, and the quality of works that are under the project manager’s constant supervision. They may also be called the principal constraints that are imposed on a project.

One of the effective instruments of solving project problems from their very emergence and the analysis of the possible ways of their solution is project management.

Project management is the additional introduction of knowledge, skills, methods, and means into the project works in order to meet or to exceed the needs and wishes of concerned project parties.

Project administration is the process of team and project resources management with the help of special methods and devices for the purpose of successful achievement of the set goal.

The general management provides planning, organization, **personnel management**, work procedure execution and monitoring as well as auxiliary disciplines: computer programming, law, probability theory and statistics, logistics and **personnel administration**, and intersects with general management knowledge in many fields – organizational behaviour, financial forecasting, and planning methods are only the minor part of related issues.

Project managers are in charge of three aspects of its implementation: time-frame, expenditure and the outcome quality. It is believed that effective management of period of works is the key to success at all of the three points. Project time-frame is often the most crucial.

In order to manage the project qualifications effectively the operations schedule construction and control methods are used. For resource constraints management the project finance plan (budget) formation methods are used and, as the work advances, monitoring is exercised in order not to let the spending be out of control. For the works execution the appropriate resource provision is needed. For this purpose the special methods of human and material resources management are applied (e.g. responsibility matrix, resources load diagrams). Of the three main constraints the constraint concerning the specified project outcome is the most difficult to control. The problem is

that the objective is often difficult both to specify and to control. The performance quality management methods are used notably for the solution of such problems.

Project management methods make it possible:

- 1) to define the project objectives and to carry out its justification, project structure (subprojects, the main phases of works), the required amounts and sources of finance, executors through tendering and bidding; period of project execution; to make up the schedule of its implementation; to determine needed resources, risk level and to work out the measures of their insurance;
- 2) to prepare estimate and budget, to conclude contracts, to provide project execution control etc.

The specific character of project management methodology requires the marking of the main functions, that is, the tasks which are solved by project managers in the process of the project realization, namely:

- project activity forecasting and planning;
- labour management;
- the coordination and management of project development and realization processes;
- the activation and stimulation of executors' work;
- the accounting, control and analysis of project development and realization progress.

Project organization. *Organization* is the division of a project into hierarchic subsystems and components, and the establishment of connections and relationships between them that enable to carry out the project management.

Project organization makes it possible to form in more detailed way for every of the project participants the list of jobs performed by them, intermediate and final results that must be achieved by them at the particular stages of project creation as well as to establish rational data communications between jobs. It presupposes the development of *Work Breakdown Structure (WBS)*, of *Organization Breakdown Structure (OBS)* and *Cost Breakdown Structure (CBS)*.

A number of particular models is used for the project organization:

1. **«Tree of objectives»** – circuitry of objectives, subgoals by level. The principal division rule is the completeness: every objective of a higher level must be represented by the complete set of subgoals.
2. **«Decision tree»** – circuitry of tasks of multistage project realization process optimization. “Branches of the tree” represent the events which may occur, while junctions (tops) are the points where the cusp of a dilemma appears.
3. **«Tree of works»** (work division structure – WDS/WBS) contains two hierarchic schemes that are somehow connected with each other: *the hierarchy of products and the hierarchy of works*. The lower level of the hierarchy of works corresponds to the packages of works required in case of the network diagram elaboration. The package of works can be an independent financial unit and must have a separate estimate and the statement of expenses.
4. **The organization structure** of executors (OSE/OBS) has the manager as the zero level in its scheme. The lower levels include the branches necessary for the functional management of works. Sometimes these levels correspond to the WDS levels. The OSE goal is to assign the executives responsible for the works performance.
5. **The network model** – on the basis of WDS and OSE, of the tree of objectives and the tree of works the network diagram of milestone events is composed. Apart from the general (complete) one it is appropriate to make the network diagrams of separate work packages which are called network units or subnetworks. This provides the possibility of effective

control procedure, makes it possible to pay more attention to the most important (critical) subnetworks control, rather than constantly control the entire network thus saving time.

6. **Resource consuming structure** – the hierarchical diagram that determines the resources needed at every level. It is used for the analysis of the means required for the project objectives and subgoals achievement.
7. **The expenditure structure** – the hierarchical diagram that determines the cost of the project elements at every level.

The project concept development. *The project concept* is the preliminary plan of the project business idea implementation that is given to the business manager or to the potential investor to estimate the prospects of this business proposal. The estimation purpose is the selection of the most promising projects out of several alternative ones.

The projects objectives and tasks must be clearly formulated because only under such conditions the next step is possible, that is the project major characteristics formation which may include:

- the alternative technical decisions availability;
- demand for the project product;
- project duration;
- the estimation of the reference, current and expected prices level for the project product (service);
- prospects of the project product export;
- project difficulty;
- initial approvals;
- investment climate in the project implementation sphere;
- the project result – expense ratio.

On the basis of these characteristics the preliminary feasibility analysis is carried out. If the project is acknowledged to be realizable then the data set needed for the project further development is determined: detailed marketing, exploration, the evaluation of environment and local sources of raw materials, political situation in the region, the sociocultural description of the population.

Project design (idea) is implemented in the form of the Declaration of intent as well as the task for the development of the pre-project building investment justification.

Thus the initial (pre-investment) project phase is of fundamental importance for the potential investor (customer, creditor). It's more advantageous for them to invest money in the design analysis and in case of negative results to refuse the idea than to start the unknown business which may prove to be unpromising.

If the project idea turns out realizable the more detailed analysis can be started which is carried out by the project analysis methods.

Project life cycle. Project cycle (PC) is the basic element of the project analysis concept. *Project life cycle* is the the period from the moment of its idea to the moment of liquidation. It reflects the project progress – the kinds of works being performed at the various stages of the project preparation, realization and start-up. The notion «*project cycle*» involves the definition of the various stages of the project development and realization.

The level of detail and the terminology of the corresponding procedures description depend on the project character, subject standards, assigned tasks, resources available and, perhaps, on the project analyst's preferences and tastes.

The universal approach to the definition of works which belong to various phases and stages of the PC is the approach of The World Bank.

In the Tab. 13.1 are given six stages which play an important part in the majority of projects. They are identification, development, appraisal, negotiations, realization and the final assessment. These stages are united into two phases: designing and implementation.

The general properties of the life cycle phases provide for the following:

- 1) expenses and the project-involved manning level are low at first, subsequently they increase and rapidly «move upwards» when the project nears completion;

Table 13.1

Project stages				
	Stage	Essence	Task	Implementation terms
The designing phase	Identification	Choice or generation of the profound ideas which can guarantee the completion of the important development tasks	The listing of all possible ideas suitable for the achievement of the economic development goals	Ideas must correspond to the terms: the profit from the project realization will exceed the realization costs
	Development	Successive refinement of a project in all its parameters (technical features, environmental effects consideration, efficiency and financial feasibility as well as managerial procedure scale)	The constricting of the range of the ideas suggested at the first cycle stage by means of their analysis in more detail. The conducting of several types of research is possible	The more we know about different approaches to the project management the greater possibility we have to reject unsuccessful choices and to start the detailed analysis of a selected project
	Appraisal	The final assessment of all project aspects before the inquiry or the decision concerning its financing	Prepared is the detailed foundation of expediency and feasibility with the indication of those project components which will produce the maximal profit	Attention, as a rule, is concentrated on the optimal project alternative
The implementation phase	Negotiations	Investor and customer make an effort to make an agreement concerning the measures required for the project's success assurance	The entered engagements are processed as the documented obligations in law	The report of intention, memorandum or other documents which reflect the entered engagements are drawn up
	Realization	The execution of works required for the project objectives achievement	Control and supervision of all kinds of works or activity in the course of the project development	Control and inspection procedure must be coordinated at the negotiations stage
	Final stage	The degree of the project objectives achievement is determined; conclusions are made about their usage in subsequent projects	The actual project result against the plan are compared	

- 2) the probability of the normal project completion is the least and of risk and uncertainty correspondingly the highest at the project start. The probability of the normal project completion is gradually growing in the course of the project execution;
- 3) the concerned parties' ability to affect the final features of the project product and its final cost is the highest at the project start, but in the course of time it is gradually falling. The basic

cause is that expenses on changes and error correction in general increase in the course of the project completion. This situation can be presented graphically (Fig. 13.1).

The point in the process of project phases, stages or periods definition consists in the indication of some control milestones when passing through which additional (external) information is used and feasible project directions are determined or estimated. In any case the accepted division represents the interaction of a project with environment (the active mechanism of the state economy direction, policy of the state, existing economic position etc).

In practice the project life cycle is used by some project groups to determine the period of the key tasks completion during the project completion in general. For instance, the designing team can plan every effort at the definition stage whereas the quality group, naturally, concentrates their

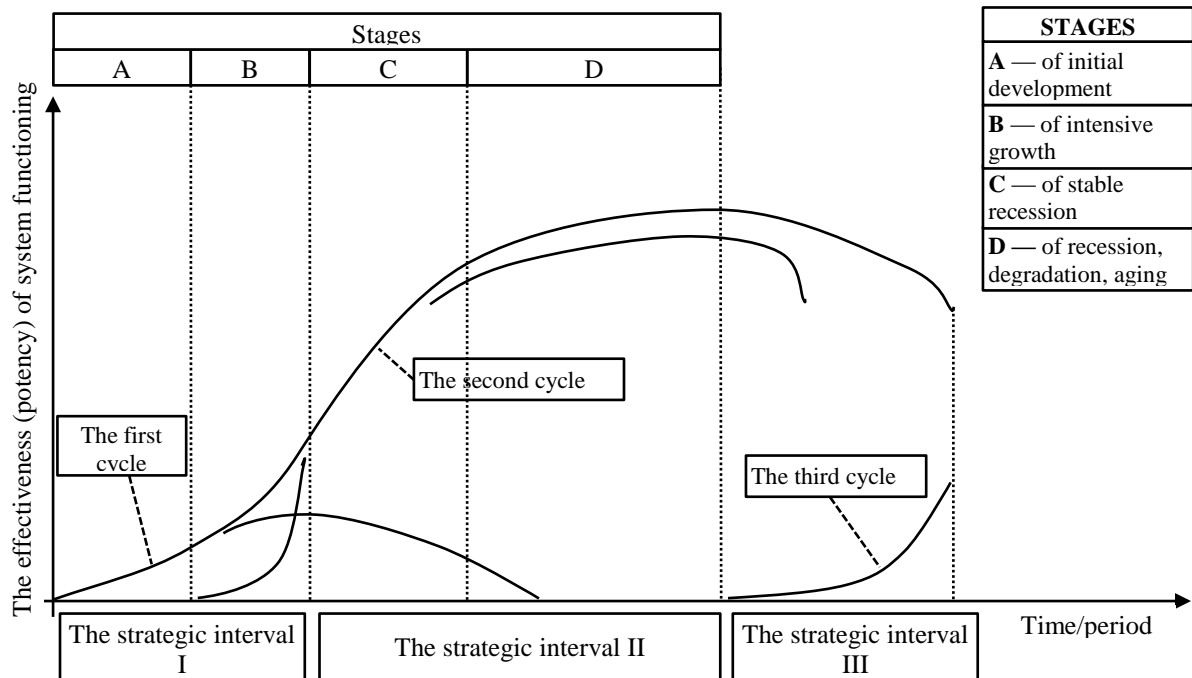


Figure 13.1 – The performance at the project life cycle stages

main forces at the final stages of the project life cycle. If the organization has the entire portfolio of projects being executed simultaneously and each of them is at its own stage of life cycle then thorough planning and management at the organization level as well as at the project level is all-important.

13.2. The organizational structures of project management

The project realization success depends to a large extent on its organizational structure. The notion of organizational structure includes the organizational structures of project management (the set of interdependent authorities situated on different system levels) and organizational forms (the organization of investment process participants' interaction).

There are several types of organizational structures extensively used in project management: functional, matrix, and planning.

Functional management structure. According to this structure management is performed by the line manager via the group of functional executives under his command, any of them running certain subdivisions within the limits of their functions (Fig 13.2).

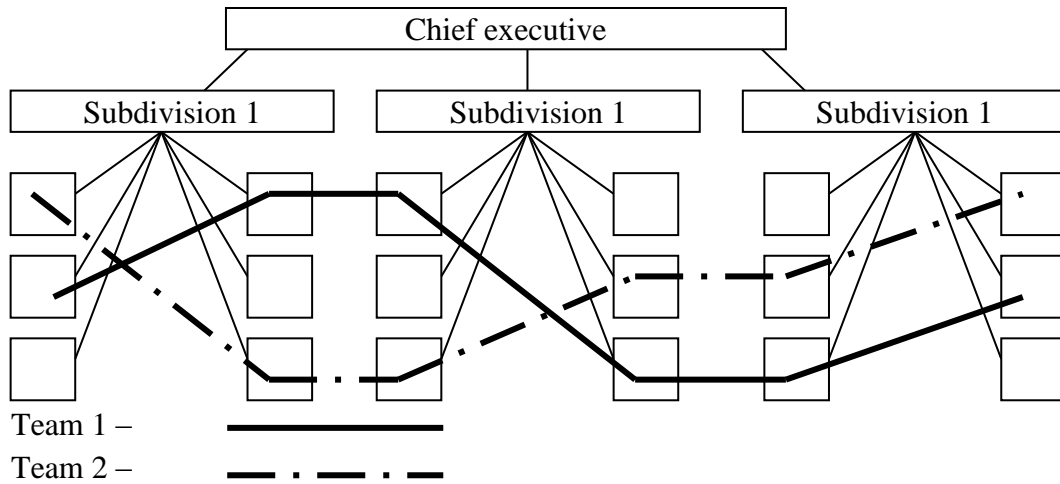


Figure 13.2 – Functional organizational structure

Matrix management structure which is created on the basis of the functional one provides the interrelation based on the direct vertical connections «manager – subordinate». For the purpose of concrete problems solution the temporary project groups are formed with the project managers at the head. The latter cooperate with the functional subdivisions horizontally; these connections superimpose traditional vertical ones thus creating the interactions matrix.

Project structure. While solving the problem tasks predetermined by the reorientation of organization's objectives or by the change in the ways of their achievement the most efficient form of the project realization is the project management. In the given form of management the system approach requirements are implemented whereby work are regarded not in the context of permanent chain of command but in the context of the defined objective achievement or the concrete problem solution.

Today the organizational structure is the important tool of project management. It makes it possible to carry out all the functions and processes required for the project objectives achievement.

The organizational structure is the basis of the project team formation and activity arrangement.

Project participants. Project team formation. The agents of management in the project management are the active project participants (Fig. 13.3).

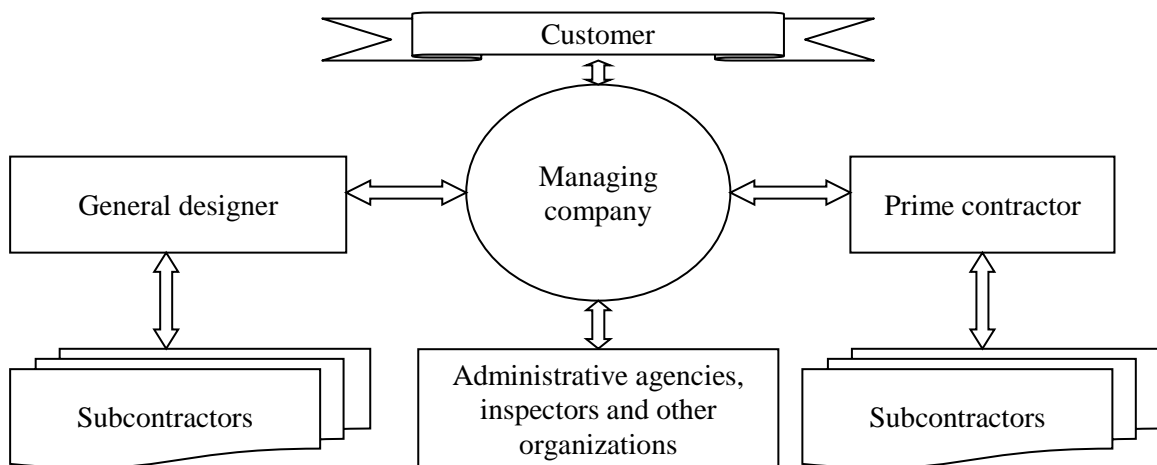


Figure 13.3 – Investment project participants

There are no common rules that could be universal for any project management for it is conditioned by the project type, peculiarities of a country or region, innovation level and other factor. Therefore managers must react very considerably to the circumstances (context) in which the project is implemented and will function after its realization. The principal functions performed by the managers are given in the Tab. 13.2.

Table 13.2

Project management functions

№	Management function	Content
1	Leadership – the ability to make objectives and tasks clear and understandable for the team	a) taking into account the interests of clients and of those who expect to benefit by the project; б) the definition of the value system that is to use in the relations with clients
2	Planning	a) the strategic plan which establishes the interrelations between the objective and clients in the present socio-economic environment with consideration for risk factors and existing alternatives; б) operative programme – the action plan determining the project scope and the level of economic efficiency. For the defined results achievement the operative programme must balance and establish the connection among available resources, techniques, information, skills, and services or the product to be manufactured in the issue of the project implementation

Table 13.2 (continued)

3	Guidance and aid in work	a) the correct division of labour, subdivisions organization, material and financial resources allocation; б) competent work programmes execution, labour force organization and integration, efficient working subdivisions and task forces formation and motivation
4	Coordination	a) external relations and information establishment: contact, coordination and influence on related managerial subdivisions, parties concerned and clients; б) the organization of the internal relations with other organizational subdivisions
5	Implementation control	a) the introduction of the standards which determine the goals priority and the delegation extent; б) the control of material, financial, accounting and social factors; в) the periodic estimation of plan execution and correction
6	Result orientation	a) the use of the bonus plan in conformity with the organization rules; б) the training for possible career development

The use of the project management methodology provides the creation of a special group (project team), that becomes the independent project participant and exercises control over the investment process within the project. This group is set up for the period of the project implementation and is disbanded after its completion.

Project team is the range of the workers who perform the functions of the project and its human resources management.

There are two basic approaches to the project team formation:

1. The leading project participants (customer and contractor) set up their own groups headed by the project managers – from the customer and from the contractor respectively. These managers in turn are subordinate to one project manager.

2. A single team with the project manager at the head is set up for the project management. Such team includes the representatives of all project participants according to the confirmed distribution of areas of responsibility.

By its form the project team represents the existing organizational structure of the project management, the sharing of functions, duties and responsibility for the decisions made in the course of the project realization. The upper level of the structure is occupied by the project manager, the lower ones – by the executives, departments, and the experts responsible for the separate functional spheres.

By its meaning the project team is the group of the highly skilled specialists who possess the knowledge and skills required for the effective achievement of the project objectives.

The basic integrating factor of the team creation and activity is the strategic goal, that is, the project realization. In the process of the project goals achievement the team acquires its scope, makes use of the participants' organizational abilities and of the project resources. The project team stands as the social organism which has its basis, implements the life activity process (project management) and ceases to exist breaking up or being transformed into the other managerial team.

Today several types of the collaboration in the team exist:

1. *Common-cooperating type* is characterized by the obligatoriness of every team member's participation in the common task solution. The intensity of labour is approximately equal for everyone. The people inclined to work in the teams of this sort are characterized by the focus on the collective goals, group morals, the respect for the leader's authority.
2. *Common-individual type* is characterized by the minimum cooperation among the participants of the processes. Every executive carries out his work and submits the results of his own labour. For the participants of this type of activity characteristic are high initiative, focus on the result and individual achievements.
3. *Common-creative type* when each team member is the equal co-author of a new product or service. The participants of this activity arrangement type focus on career development, are inclined to the cooperation with the specialists from other fields.

The description of the way the managerial decisions in organization (team) are made, is called ***the managerial form***. The description of the way of managerial decisions implementation is called ***the control lever***.

There are such managerial forms:

- *collectivistic* – presupposes the independent decision-making by the team leader, while workers are obedient executives;
- *market* – presupposes the decision-making according to the market demands. The main control lever is money. This managerial form corresponds to the entrepreneurial organizational culture;
- *democratic* – presupposes the use of law as the main control lever. In such teams the result-oriented professionals can work;
- *interactive* – is characterized by the distribution of the managerial functions that can be efficiently executed only with all agents of management hands on. The main control lever is the team members' unique knowledge.

The integral characteristic of a team is its organizational culture which presupposes:

- the understanding of one's position in a team;
- values and standards of behaviour;
- criteria and regulations of powers and responsibilities;
- rules of informal relationship;
- work and business ethics.

The modern concept of project personnel management presupposes the growth of worker's personality significance, the necessity of his motivational guidelines consideration, the ability to direct them to project management tasks solution.

It should be mentioned that investors consider the project team management to be the main factor of the project realization success.

The primary intent of the project personnel management consists in providing its effective realization achievement.

One of the essential project personnel management functions is the personnel recruitment and rating.

The methods of personnel rating are divided into:

- prognostic;
- practical;
- simulation.

The prognostic method is based on the use of personal details, testimonials, references, team members' and top managers' opinion consideration.

The practical method presupposes the control of the worker at the concrete work place which helps to estimate the results of his activity. For this method realization the trial movements of the workers are used.

The simulation method is the expert rating of business and personal qualities on the basis of the simulated task solution.

13.3. Investment project management

Project management intersects with the general management knowledge in many fields; organizational behaviour, financial forecasting, and planning methods are only the small part of related knowledge.

In the process of the project management project managers exercise the following functions:

- to check the correspondence of the amount and period of executed works with the benchmark provided by the contract;
- the selection and involvement of the leading specialists from engineering disciplines into the project and their activity coordination;
- to define the reasonable terms of commencement of works to avoid their untimely completion;
- the employment size adjustment;
- the project alteration control;
- the control of the factors, conditions and documents which may increase the cost of works;
- the check of succession and priorities adherence chosen in the process of works planning;
- guaranteeing the preferential selection of standard materials and equipment in the maximum possible number of situations, the ensuring of the minimum range of used items;
- the preparation and realization of the agreement with a licensor;
- preparing and controlling the adherence of the project activities plan, connected with the general project plan;
- the elaboration jointly with the customer of the project statement.

Depending on the project scope and complexity manager's functions at the design stage can be entrusted to the manager of the whole project as well as to the specifically assigned project manager working in a team under the general manager's leadership.

In the project management process there exist two aspects. The first one is the technicality of the management process which consists of the formal, arranged, purely logic parts of the process. The technicality depends on the availability of the formal information system. This aspect includes planning, schedule of works, and controlling. The distinguished boundaries and the scope of projects are determined and documented in order to unite the project and the customer and to promote the planning and control process. The process of planning and supervision over the progress of project works is also favoured by the reporting about the intermediate results and structuring of works. Work structuring is the peculiar database which integrates all the organizational levels (basic, intermediate results and all works, up to the tasks) into a single package of works. The effect of any change in a project is documented and can be traced. Therefore any change in any part of a project can be traced up to its source with the help of the integrated intrasystem connections. Such approach to the data integration can provide all project managers and all clients with the information about the decisions made.

The second one is the sociocultural aspect of the project management process. In contrast to the arranged project planning process this aspect implies more complex often contradictory and paradoxical process of the project implementation. Attention is focused on the creation within the organization of the temporary social environment which combines the practical skills of various professionals working on the project implementation. Project managers must be able to meet clients' expectations, to get top management's support, to agree with their functional colleagues, to control the contractors etc.

The project management system includes several main subsystems which enable to implement the project management methods in full measure.

In the modern world quite powerful factors work which predetermine the necessity of project management methods usage for problem solving and the enhancement of the business development opportunities.

Business indicators system. *Business indicators system (BIS)* is the tool of results and company's growth management when strategy is the centre of the whole business process.

Company management principle focused on strategy is the conversion of strategy into the «terms» of the operational management level.

Primary indicators – «efficiency drivers» are the unique indicators for the separate business unit. For the most part these are the indicators of internal administration's prospects and innovations.

An example can be growth and training goals which must create the value for a target consumer at the target market

Secondary indicators are the «overall estimates». These are summarizing, resultant indicators, mostly the indicators of the financial and consumer prospects.

Examples are profitability, market share.

Primary indicators include:

- corporate reports: money, indexes, coefficients;
- general issues indicators: quality as against rivals, the time for a new product launch;
- the indicators that help to define qualitative objectives according to the lines of activity.

Secondary indicators:

- managerial «sensors» with the data set;
- top management indicators concerning general issues, e.g. reviews, data systems;
- department reports on the process or product results on the basis of test or inspection results, reviews etc.

The payback of business indicators system implementation

Prospects B3C	Potential effect	Typical effect on benefit
Consumer	Rise in prices by 1% Business expansion by 1%	11,4% 3,5%
Domestic business	Cost reduction by 1% Loss saving by 1%	7,9% 7,9%
Innovations and Training	Compensatory payments reduction by 1% Production gain by 1%	1,9% 1 ,9%
Total		34,5%

13.4. Project management processes

Project consists of processes. *Process* is the set of actions that produces result. Project processes are usually executed by people and are divided into two main groups:

- 1) project management processes concerning organization, and project works descriptions (that will be considered in detail below);
- 2) product-oriented processes concerning specifications and production. These processes are specified by the project life cycle and depend on the field of use. Project management processes and product-oriented processes are superimposed and interact in projects. For instance, project objectives can't be defined without understanding how to create a product.

Process groups. Project management processes can be divided into six main groups accomplishing various management functions:

- 1) initiation processes – making decision about project implementation start;
- 2) planning processes – the definition of objectives and project's success criteria and working out the patterns their achievement;
- 3) execution processes – the coordination of human and other resources for the plan fulfillment;
- 4) analysis processes – the determination of plan and project execution compliance with the set objectives and success criteria, and making decisions about the necessity of correcting actions usage;
- 5) management processes – the definition of the required correcting impacts, their coordination, confirmation and application;
- 6) completion processes – the project completion formalization and its bringing to the arranged ending. In addition, project management processes are connected through their results – the completion result of one process becomes the source information for the other one... And, finally, there are interrelations between the groups of various project phases processes. For instance, one phase completion can be the admission to the next phase initiation (e.g.: the designing phase completion requires the approval by the client of the project documentation needed for the realization start). In the real project phases can not only precede one another, but also superimpose. The initiation repetition in different project phases helps control the project execution. If its implementation necessity has vanished another initiation enables to determine it in time and to avoid excessive expense.

Within every group project management processes are interrelated through their inputs and outputs.

Inputs are the documents, documentary indicators whereby the process is executed.

Outputs are the documents, documentary indicators which are the process outcome.

Methods and means are the tools whereby an input turns into an output.

Project works automation. Recently leading Western designing firm and in part domestic ones carry out the transition to the computer-aided design systems (CAD) involving the whole process of a project creation.

The CAD creation or purchase must be preceded by the thorough economic analysis. Experience demonstrates that it is more profitable for the middle and small firms to command the services of the outside organizations.

The main issues which are to solve during the CAD implementation include:

- 1) the adaptation of the firm organizational structure to the CAD requirements, that is the information flow arrangement so that to avoid the necessary data redundancy or absence by the different participants of a designing process;
- 2) the selection of software tools and computing machinery taking into account the fact that their update takes place every 5–6 years;
- 3) the resolution of the question concerning the data bank structure to be used in the system. Generally the data bank contains: material consumption data, their costs, decisions about arrangement, techniques, period of construction as well as about standards and typical design solutions.

Recently expert task-level systems have been becoming widespread. In this case the objective is defined and the intelligence system finds several possible solutions which permits engineers to free themselves from many technical functions and makes it possible to concentrate on truly creative designing aspects.

Work sequence specifying. Project time-frame management provides for the processes necessary to provide the timely project completion. The basic project processes include:

1. Activity definition – the identification of the certain activities which must be executed in order to receive the results and particular elements of the project support.
2. Work sequence specifying – the identification and documentation of the interrelations between the activities.
3. Activity duration estimation– the definition of the work units number needed for the completion of certain activity.
4. Schedule elaboration – the analysis of the works sequence, their duration and resources requirements for the purpose of the project schedule drawing up.
5. The control of the schedule observance – the control of the changes in the project schedule.

Work sequence specifying presupposes the identification and documentation of the interaction between the activities. They must be in a strict sequence for the facilitation of the later drawing up the actual and feasible schedule. Sequence can be specified with the help of computer (e.g., by using the project management software) or manually. The latter option is more effective in small projects and at the early phases in large-scale projects when detail is not so important yet. Manual and computer techniques can be combined.

The methods and means of the work sequence specifying:

- Precedence Diagramming Method (PDM) – is the method of the network project diagrams construction with the use of nodes with the indication of activities and arrows for the illustration of connection (dependence) between them. This method is also called Activity On Node (AON). It is used in the majority of modern project management software. PDM diagrams are graphed manually or with the help of computer;
- Arrow Diagram Method (ADM). This is the method of the network project diagrams construction with the use of arrows for the representation of the connection between activity nodes and the dependence between them. Another name for this method is Activity On Arrow

(AOA). Though the ADM method is less popular than PDM it is still employed in some applied spheres. The ADM method implies only Finish-Start relations therefore there exists the necessity of dummy activities usage for the correct definition of all logical connections. ADM diagrams are graphed manually or with the help of computer;

- relative diagrams methods are the method of a graphical estimate and view of PERT and the method of system dynamics model; they are employed for the activities without any sequence such as cycles (e.g., the testing repeated more than once) or conditional branches (e.g., project correction required only when the inspection detects drawbacks). Neither PDM, nor ADM permit the usage of cycles or conditional branches;
- network masks. Standard networks can be used to facilitate network project diagram preparation. They can cover all the project or its part. Network parts are often named subnetworks or subnets. Subnetworks are particularly useful when the project contains several identical or almost identical activities, e.g. flooring in a multistoried office, clinical trials in pharmaceutical research project, software modules in a software development project.

Activity duration estimation. It presupposes the definition of performance periods number which will most probably be needed for the completion of any activity. A person or a group of persons from the project team that is best aware of the concrete work to be completed must carry out such estimation or at least to confirm already existing estimate.

The general estimating of the cost of works, the definition of the resources for the works execution, the methods of their duration estimation belong to the most important tasks of the project manager's team.

Simultaneously with the activity duration estimation the resources definition for their execution is carried out.

Resources requirement. The duration of majority of works to a large extent depends on the resources, allocated for their execution. For instance, two persons working together are able to complete designing works two times faster than one of them could do singly. As well as one person working half-time usually spends twice much time than if she would work full time.

Resources capacity. The duration of majority of works to a large extent depends on the capacity of human and material resources involved for their completion. For instance, when two persons must work full time on some task completion, it is generally expected that more skilled person will spend on this work less time than the less skilled one.

Archive data. The archive data on a probable duration of different types of works is often available from one or several sources of this kind:

- project files. One or more organizations involved into the project can store the records about the previous project results which are detailed enough to help with the activity duration estimation. In some applied spheres such records can be stored by the individual members of the team;
- commercial databases with duration estimates. Archive data can often be available via commercial channels. Such databases are especially useful when the activity duration does not depend on the specific project content (e.g.: time of concrete hardening; the time allotted for the response on some types of requests in some state organization);
- the awareness of the project team members. Individual project team members can remember the previous actual results or estimates. Though such information can prove useful it is generally not so reliable as that which is documented.

One of the most important tasks of project manager's team is the direct activity duration estimation. The following methods are used for this purpose:

- 1) expert's decision. Often it's difficult to estimate activities duration so long as a great number of factors influences them (e.g. the resource usage level, resources efficiency). The expert's decision that is based on the archive database must be used wherever it is possible. Without it the estimates acquire uncertainty and become risky;
- 2) the estimation on the basis of analogs or the estimation top-down implies the use of the actual duration of the previous analogous work as the estimation of the future work duration. It is often applied for the project duration estimation when there is little detailed information thereof (e.g., at the early project phases). The estimation on the basis of analogs is one of the forms of the expert's decision. It is most reliable if:
 - a) the previous projects are alike not only by form but also by content;
 - b) the persons who perform this work have the required experience;
- 3) modeling. Modeling presupposes the calculation of a great number of durations with a certain set of assumptions. The best known is Monte Carlo method in which the distribution of possible results is determined by every work and is used for the calculation of possible results distribution by the project in general.

The results of the activity duration estimation – is the quantitative assessment of the probable number of performance periods necessary for the work completion. They must always contain the indication of the range of probable results.

Project efficiency indexes. For the project efficiency estimation it is more reasonable to use the indicators which make it possible to calculate the value of the project efficiency criteria taking into account the integrated assessment of benefits and costs, the change of the value of money with time and other factors. The correct estimation of the initial project costs amount is the guarantee of the project payback calculation accuracy.

During the project efficiency analysis the following indicators are used:

1. The amount of investment – is the value of initial cash investments in the project, without which can't be proceeded. These costs have a long – term character. During the period of functioning of the project in the course of its “life cycle” the capital, which is invested in such assets returns in a form of amortization as part of money circulation, the capital, which is invested in current assets, including money assets after finishing “life circle” of the project should be remained by investors in the same state and size.
2. Money circulation – is discounted or undiscounted income from the realization of the project, which includes net profit and amortization, which come as part of receipts from the sales of the production.
3. Net Present Value of Project. This is the most famous and most used criteria. To calculate NRV of the project is necessary to determine the rate of discount, use it to discount the streams of costs and benefits and summarize the discounted benefits and costs (costs as negative). If the NRV is positive, the project can be recommended for financing. If NPV is zero, then revenue from the project would be enough to recover the investment. If the NRV is less than zero – the project is not accepted.
4. Payback period – is a time, during which the money circulation, which was derived from the expression of the project by investor, reaches the size of financial recourses, which were invested. In economic practice, it may be determined, without taking in account the need of the money circulation in time or with its need. If the ratio of benefits to costs is less than the price of the capital, the project may be premature, and with the bigger ratio it can be concluded, that it is probably late for the project.

5. Internal rate of return (IRR). The other names are used in the literature: internal rate of return, internal rate of income, internal norm of profitability. This is the level of discounting rate, at which the net present value of the project is equal to zero, during its life circle. IRR of the project is the rate of discount, at which the total discounted benefits are equal to total discounted costs, that is IRR is the discount rate at which NVP project is equal to zero. IRR is equal to the maximum percentage of loans that can be paid for the required resources, remaining on the level without loss. The IRR calculation is carried out by successive approximations of NPV to zero at different rates of discounting.
6. Benefit / Cost Ratio (BCR)). BCR is the ratio of discounted benefits to discounted costs. The basic formula is:

$$BCR = \frac{\sum_{t=1}^n \frac{B_t}{(1+i)^t}}{\sum_{t=1}^n \frac{C}{(1+i)^t}} \quad (13.1)$$

The task of this project selection criterion is to select all independent projects with coefficients BCR, greater than or equal one. In applying this criterion should be remembered that the coefficient of BCR has the following disadvantages:

- may give incorrect rankings for the benefit of even independent projects;
- not meet the choice of exclusive projects;
- not show the actual value of net benefits.

The main potential problem in applying these kinds of criteria is a double bill, which should be avoided.

Criterion VSR can be used to demonstrate how the potential increase in costs without converting the project economically unattractive. The main advantage of the criterion is the ability to quickly assess its value to assess the effect on the levels of risks and uncertainties.

7. Profitability index (Profitability Index (PI)) is the ratio of the amount listed effects (difference between current costs and benefits) to the value of investments:

$$PI = \frac{1}{K} \cdot \sum_{i=1}^n \frac{B_i - C_i^n}{(1+i)^i} \cdot \quad (13.2)$$

RI is closely associated with NRV. If NPV is positive, then RI > 1, and vice versa: if RI > 1, the project effective if RI < 1 - ineffective.

Postaudit of the project. Appraisal investment of the project, which is held after the decision of investment usually consists of two systems of control:

- 1) postaudit of the project;
- 2) post evaluation of the project.

The investment project is the subject of non-traditional audit. Every large investor should have its own audit system to regulate the efficiency of long-term investment decisions. The need for such a procedure is obvious: the project is heavily invested, and despite the fact that all project procedures are agreed between its participants, the process of its selling requires constant control of the proper use of investor funds and the relations between costs and revenues. Such studies are called postaudit of investment projects.

Postaudit of investment projects – is a systematic process of receiving and assessment of objective data on economic processes, which includes the comparison of actual with planned results, explaining the causes of deviations and gives the opportunity to determine the compliance level of actual criteria to calculated one.

Postaudit aims to:

- 1) Improvement of projection. At first the all deviations are tracked and then, they are limited in subsequent projections. Searching for new methods of projections are fulfilled, if the need for them becomes apparent. It is known that people tend to improve everything they do, including projections, if they know that their activities are controlled.
- 2) improvement of activities. The business management is carried out by people who can work more or less effectively. When the group (department) performs the projections of investment, members of this group risk their reputation. If the costs exceed the projected level of sales or lower than expected, then the administration of department will try to improve results and bring them to a projected level.

Evaluation of the project after its completion (the final evaluation) is part of the work on the project. The purpose of this evaluation is to analyze the successes and shortcomings of the completed project to take into account the experience, received during the implementation of these projects. This evaluation is carried out by investors, who continuously implement a large number of investment projects, for example, large commercial banks, international organizations, the World Bank.

13.5. Planning in control system of project

The developing of project planning. Planning is especially important in the project, since the latter provides for certain actions that were not performed before. Project planning is used for:

- carrying out the management of realization of the project;
- documentation of assumptions while planning the project;
- documentation of planning decisions including the selected alternatives;
- facilitation of communication between stakeholders;
- determination of the main modes of checking the contents, cost and time;
- providing a basis for controlling of the project.

The overall project planning process includes these steps:

- setting the goals, the tasks of the project, the calculation of technical and economical indexes for grounding of the project, determining the resource requirements, duration and specification of labor, stages of the project;
- structuring of the project;
- adoption of organizational and technological solutions;
- development of network model of works;
- evaluation of the capacity of project implementation, optimization in terms of quality criteria and use of resources and other criteria;
- preparation of necessary documents to the package of plans;
- approval of plans and budget;
- bringing the targets to the executors;
- preparation and approval of records for monitoring plans.

The relationship between planning processes are shown in Fig 13.4.

The process of planning

While developing the project plan the results of other planning processes are used for clearly

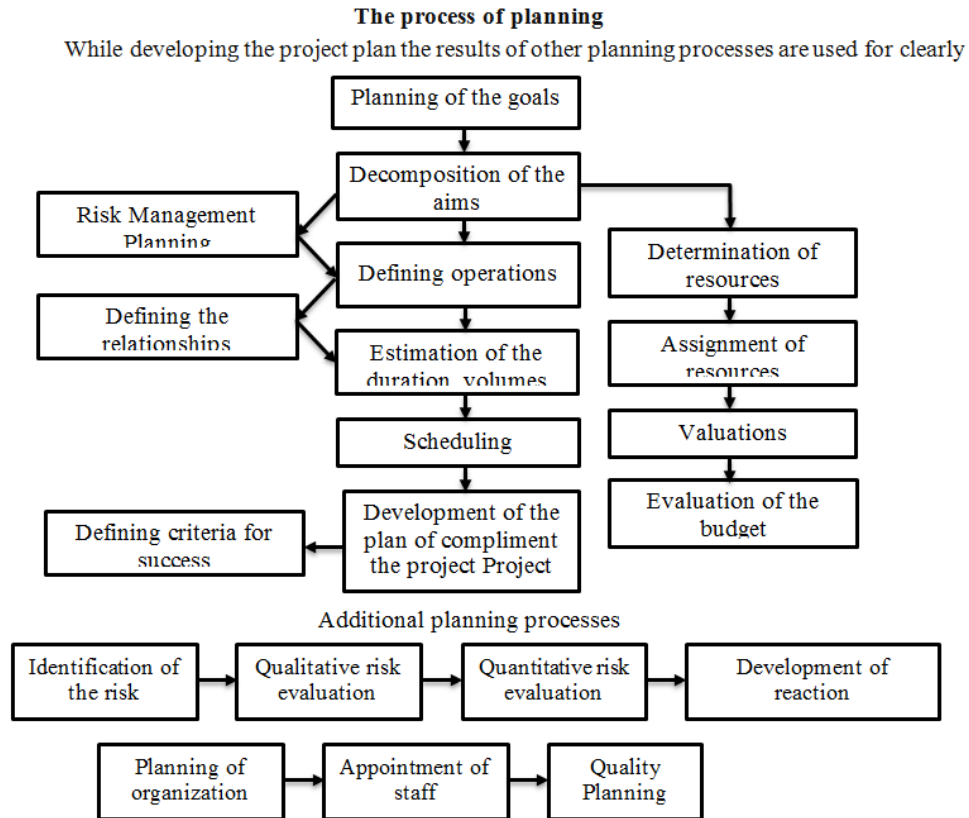


Figure 13.4 – The relationship between planning processes

agreed document, which could guide management of the project and in monitoring its implementation.

The supporting plan of the project. The basis for measuring the progress of the project is the supporting plan of the project. It is a specific document – commitment, in which the planned costs and expected deadlines are pointed out, and with which the actual costs and actual deadlines are compared. It can also be the basis for the development of cash flows and premium payments. Developing of supporting plan of the project - is an integral part of the overall planning process. The supporting plan is an important part of information about the system costs / schedule.

The budgeted costs of work scheduled (BCWS) is the sum of costs accounts, and every cost – is a total sets of costs (packages) of works, which are included in this account. The plan contains three types of costs - the cost of labor, equipment costs and costs of materials. Costs arising in the course of work (LOE) usually are put in the direct overhead costs of the project. LOE includes such operations as administrative support, computer support, legal operations, PR and others. They exist for a package of work, the segment of the project, project duration and represent a direct project overheaded expenses. Of course the costs are separated from LOE costs for labor, materials, equipment and calculate them for some fluctuation. LOE work packages should be very small share of project costs (from 1% to 10%).

The main reason for developing the supporting plan is the necessity of controlling the work progress and cash flow accounting. So, we must combine the supporting plan with the system of measurement and appraisal of work progress. The costs should be distributed in time according to the projection of their appearing. In practice, the integration is achieved by using the same rules of attribution of expenses to the supporting plan as to measure the work progress. There are three rules below, which are used most frequently in practice. The first two are used to reduce the overheaded expenses for collecting particular information.

1. The rule 0 / 100%. According to this rule the entire costs for their work become written off, when the work is totally finished. Thus, 100% of estimates are developed, when the volume of work is totally completed. The rule is used for work with very short duration.
2. The rule 50/50. This approach allows us to write off 50% of the estimates, when the work has been started, and 50% - after its completion. This rule sets are used according to works of short duration and small overall costs.
3. The rule of completion interest. This method is used by management. According to this rule, the best method of writing off the expenses in the supporting plan is to conduct frequent inspections throughout the period of works and setting the percentage of their fulfillment in monetary units. For example, the complete units can be used to identify major costs and, later, to measure the work progress. The monetary units can be completed drawings, cubic metre with concrete, the developed model etc. This approach adds the "objectivity" to the frequently used approaches "subjective opinions". Calculating the percentages of completion under the controlling of the project, 80% of it is usually limited until the work package is completed at 100%.

Another rule, which is applicable in practice, is the rule of controlling points. It can be used for work with large sets of duration, which consist of clear, sequential steps, which are measurable. With each phase the pre-installed cost is developed. The rule of controlling points uses the same principles as the rule of accomplished percent (some elements of work, which can be evaluated), so we will not investigate it in details.

These rules are used to estimate the integration plan of the procedure for monitoring the progress of the project. Monitoring of the implementation of the project is carried out by method of graphic analysis of variance.

Basically this method of evaluation the degree of completion has two key assessments:

- 1) comparison of the expected present value to the schedule value;
- 2) comparison of present value to the actual costs.

The main purpose of monitoring the progress of work is to notice a negative deviation from the plan at early stages and to begin corrective actions.

The only accurate method to determine the actual time of the progress on the project is to compare the planned network project schedule with the actual network project schedule to calculate how the project corresponds the terms.

(Work Breakdown Structure - WBS) –is the hierarchical structure of the distribution the sub-work packages of different levels, detailed work packages. WBS (decomposition) is a means for creating a system of project management, it solves the problems of work organization, the distribution of responsibilities; cost estimates, creation of reporting systems and so on.

The basis decomposition of WBS can be:

- 1) components of the goods (services, activities) that will be created as a result of creation of the project;
- 2) process or functional elements of the organization, which implements the project;
- 3) stages of the project life cycle, the main phases;
- 4) subunits of the organizational structure;
- 5) geographic location.

The main stages of construction of WBS and the opportunities of its usage:

- 1) the distribution and classification of the project based on given criteria. Working in a project plan –is a specific activity, which is necessary to achieve the certain results (end products of lower level). The moment of finishing the work means the fact of receiving the final product

(the result of the work). Work is the basic concept and is the basis for organizing data management systems projects. (In practice, to refer to the detailed level of work often used the term "aim ". In the general sense, these two terms are synonymous);

- 2) to automate the WBS every element of the decomposition has its own name or code;
- 3) each kind of work has its supplier, executor. The duration of work, its amount and budget, expenses, equipment, materials are also determined for each kind of work;
- 4) building a matrix of responsibility;
- 5) checking the accuracy of decomposition with its executors by critical analysis.

The development of WBS can be carried out either from the top to the bottom or vice versa, or combine the two approaches. To collect the necessary information the method of "brainstorming" can be used, which involved team members and representatives of other stakeholders of the project.

The main marks of the project are defined immediately after the construction of WBS. The mark of the project is - an event or date in the implementation of the project. It is used to display the state of completion of work. In the context of project the managers use the marks to point out the important intermediate results, which must be achieved during the realization of the project. The sequence of marks, which are determined by managers, often called the marking plan. Unlike the work the marks have not certain duration, " completed " or "failed" are the only criteria, which are used for their evaluation .Dates of achievement of certain marks create the planned schedule of marks.

Detailed project planning determines the structure of functional work package, the terms and peculiarities of their implementation. The presence and control of detailed work schedules are one of the main requirements of project management after the beginning of its implementation.

In the process of implementing the projects the different types of detailed plans are used, which can be classified as follows (Fig. 13.5).

Graphs (charts) Gantt – is a linear schedule, which illustrates the relations of time of a fulfillment a certain work rather graphically, it illustrates also the loading of technological equipment, but do not allow to establish the logical relationships of different kinds of work. That is why the Gantt chart is appropriate for the qualitative analysis of uniformity of the loading of production areas.

Plans-schedules include the decisions on the results of fulfillment of works and auxiliary works (information transfer, monitoring results, etc.) that allow seeing the mutual conditionality of work, which are included in the plan.

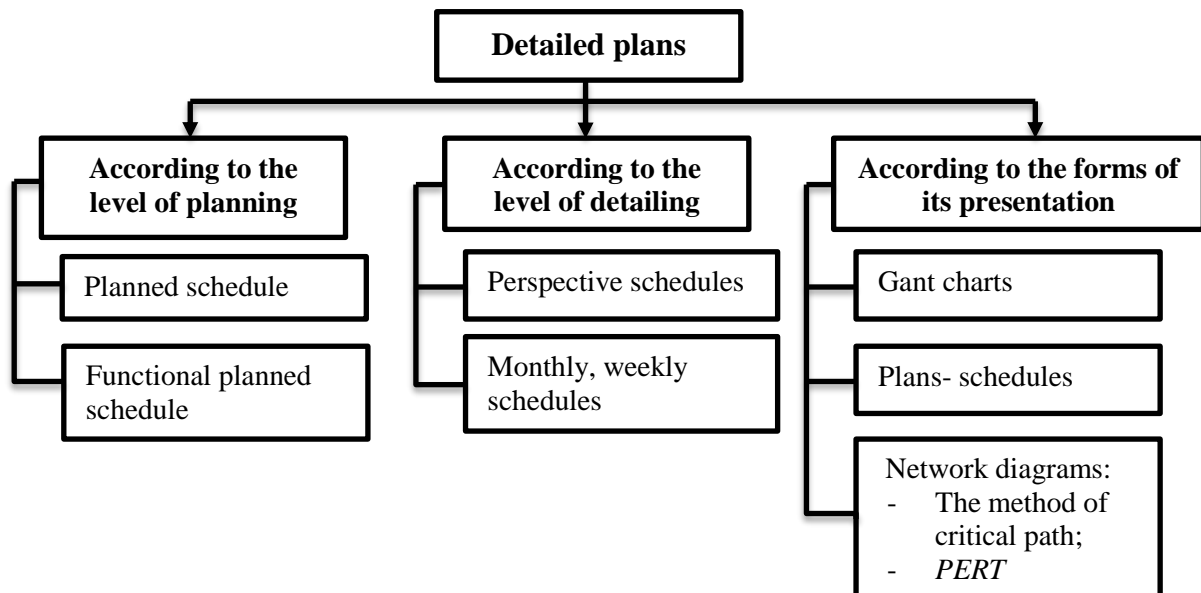


Figure 13.5 – The classification of planned schedule

The program evaluation and review technique (PERT) is a method of network analysis, which is focused on events and used for estimation of project duration in cases of high level of indetermination with evaluation of duration of separate works. PERT applies the method of critical path to the weighted average duration of assessment; it allows the approximate evaluation of possible time of completion and is recommended for analysis of projects with a significant risk.

The process of network planning assumes that all activities will be described as work package. It is necessary to determine:

- list of works;
- basic factors of work;
- identification of interdependencies between activities.

Critical path method - the method of network analysis used to forecast the project duration by analyzing the fact what sequence of work has the least estimated work flexibility (value reserve).

Critical path -is a series of work that determines the earliest completion of the project. This method allows to establish the logical relations of works, and the time of completion as of particular work and the whole plan either. An important element of the network schedule is a continuous sequence of works.

There are such kinds of networks, depending on the degree of detailing: initial, single and consolidated network. The initial networks are the most detailed. They are made out weekly by the actual executors, showing all work and their relationships. The isolated networks are more generalized; they combine the initial nets of the given object. The consolidated networks combine the full system of activities for all objects. Its development is based on the integration of initial and isolated networks.

Planned scheduling requires some inputs. After entering the procedure the forward and backward pass network is carried out and the information about the possible dates of project completion is determined.

To calculate the planned schedule, the following information is required: the composition of activities, the interconnectedness of activities, the evaluation of the duration of each activity, a calendar of working time of the project, the calendar of resources, the restrictions at the beginning and finishing of particular activities and stages; the calendar date of beginning of the project.

Any change of the date of beginning of the project will change the terms of completion of each kind of work as a result.

The system of evaluation and controlling the project. Evaluation and controlling of the project make a single system of measurement of progress on the project necessary according to the plan and budget as required by the customer. The control system should stimulate the management to see the potential problems and to act quickly when it is still possible to correct the mistakes. The general scheme of evaluation of the project is shown at Fig 13.6.

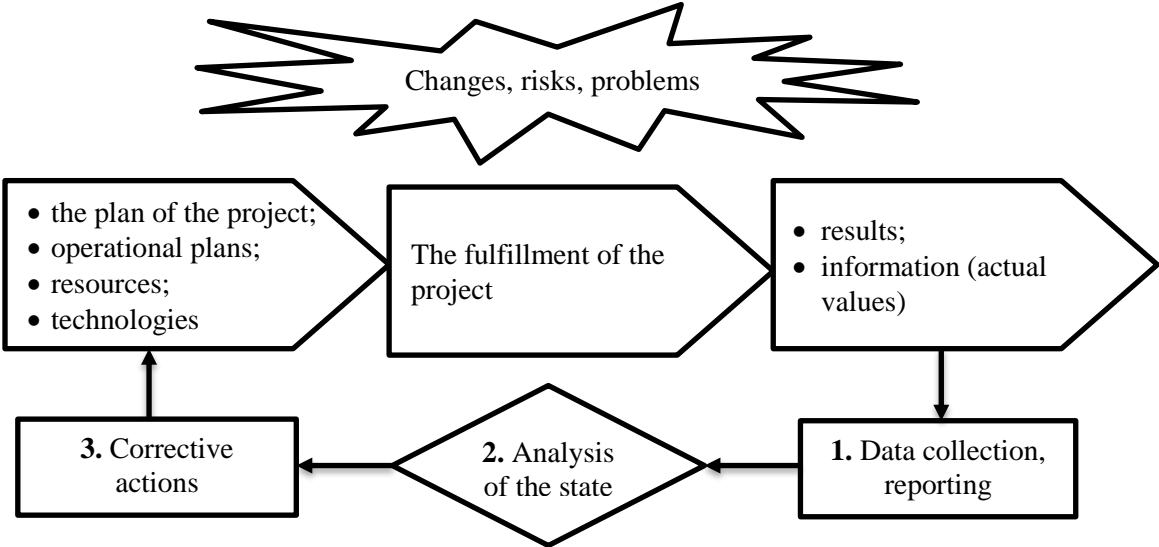


Figure 13.6 – The general scheme of evaluation of the project

With the exception of financial accounting in most organizations the controlling of the project is carried out not enough. In project management the controlling is mostly neglected. The employees have to report because of monitoring, and also it is possible to trace the progress of work completion.

The most common system of assessment and monitoring of the cost of works in the project is the integrated system cost - schedule. This system regulates the process of measuring progress of project works. Project managers all over the world use this system in one form or another. Its application is not limited to construction contracts. The system is used in international projects, which are related to manufacturing, pharmaceuticals and high technologies.

Most control systems compare only the fact with the estimate and are able to calculate what has actually being managed to make on spent money. Such systems do not take into account the time parameter in management. On the hypothetical example of the project we will demonstrate the necessity of usage of given value. The firm engaged in high technologies, introduces the project R & D (research and experimental-design work).

System cost – the schedule is based on the notion of the given value. It helps to overcome the pointed out problems by tracking the schedules and estimated costs over the time. The schedule of controlling the project is one of the instruments of monitoring of the working progress.

At the Fig. 13.6 it is vividly seen that the project remained behind the schedule almost immediately after the beginning, but due to the corrections, it had been returned to its schedule. But if the trend continues, the project will be ahead of schedule. It is believed that the four results of observations, which deviate in one direction, indicate that a stable trend exists.

The integrity of the system cost – the schedule is provided by the diligent implementation of the five steps. Steps 1-3 are performed at the planning stage. Steps 4 and 5 are consistently performed at the stage of fulfillment of the project.

Step 1. Determine the amount of work. It includes the developing of documents, which contain the following information: the scope, the list of activities, intermediate results, the subunits, resources, cost estimates for each set of activities.

Step 2. Develop working schedule and the schedule of usage the resources: Identify the composition of working activities in time, make the distribution of resources according to the operations.

Step 3. Develop the estimate, which is divided by time, using the list of activities, which are included in operation. Cumulative value of these estimates will provide the basis and be known as the budget cost of work scheduled (BCWS). The amount must be equal to the estimated values for all packages of work on account of expenses.

Step 4. At the level of the package (list) of working activities gather all data on actual costs for work performed. These costs will be known as the actual cost of work performed (ACWP). Add the estimated value of actual work performed. They are called the present value, or budget cost of work performed (BCWP).

Step 5. Make the calculation of deviations from the schedule of the fulfillment of the project ($SV = BCWP - BCWS$) and declining in value ($CV = BCWP - ACWP$). Prepare reports on the hierarchical status of the project for each level of managers - from the manager of working package to the customer or project manager. The reports should also contain a plan for the completion of the project with the appropriate subunit, and intermediate results. It is necessary to compare the actual time, which is spent on work performance with the network schedule of the project.

13.6. Financing of investment projects

The budget. The first question which appears, when the manager starts the project is: "Does it coincide with the budget, "What will be the final cost of the project?" For small or medium-sized projects there is a good system of forecasting and analysis of the cost; procedure determine the estimated cost of the project after completion (EAC), proposed earlier, is probably more suitable for the evaluation of the final costs. However, if the project is huge, the figures derived from the long-term prognosis are either unreliable, or not generally available. However, there is at least the one method, which is trustworthy, and which proved its reliability and accuracy of forecasting of final project costs. It is based on the usage of the rate of the total cost of completion of the work on a certain date - CPI ($CPI = BCWP / ACWP$). The model of forecasting the value of work after completion (FAC) can be described by the following equation:

$$FAC = ETC + ACWP \quad (13.3)$$

where ETC - Approximate cost after the (work);

CPI - the cumulative index of the cost of performance on a specified date;

BCWP - budget cost of work performed; estimated cumulative cost of work completed to a single point;

ACWP - actual cost of work performed, cumulative actual cost of work completed to a single point;

BAC - budgeted at completion- the total estimated cost of the plan;

FAC - Estimated total cost of the works after completion.

It is necessary to point out, that this model assumes that the conditions will not be changed, the database of the value is reliable, BCWP and ACWP are cumulative and the future progress can be judged on the basis on previously performed work. This forecast is a good reason for that the

management can be used for comparison the other forecasts, which include the other conditions and subjective points of view of experts. The calculation of the budget provides the division of estimate for the works of the project for creation of a cost basis for controlling the fulfillment of the project.

Input data for calculating the budget are:

- 1) estimate;
- 2) hierarchical structure of works. The hierarchical structure of work determines the planned elements, to which the value must be given;
- 3) The planned schedule of the project. It includes the dates of planned start and the date of expected finish according to the planned elements, which will receive the value. This information is necessary for providing the value to those time periods, with which it is connected.

Results of the budget calculation include the following elements:

1. Valuable basis – it is a budget, ranked by time periods and used to control and monitoring the cost of the project. This budget is developed by summing up the assessed value of time periods.

Many projects, in most cases huge one, can have a lot of cost basis for the calculating the various aspects of cost performance. For example, the plan of expenses or the cash flow forecast is the cost basis for the calculating the amounts of compensation.

The cost generally expressed in monetary units (dollars, francs, yen, etc.) in order to facilitate the comparison of not only within a single project but also between different projects. Other units, such as man-hours or man-days can be used, if without its usage it is impossible correctly estimate the value of the project (for example, the difficulties in diversity of resources with very different values). Sometimes the different units of calculation can be used in order to improve the controlling of the management.

The valuations can be specified during the project fulfillment, in order to display additional details. There are recommendations, which are created for some applied areas, concerning when and with what degree of accuracy such improvements must be performed. For example, the company AASE International has identified the following sequence of five types of evaluation in the construction projects under engineering: the order of values, conceptual evaluation, preparatory, main and controlling

2. The supporting details for cost evaluation should include:

- the description of work, which is under evaluation. It is often carried out with a help of WBS-structure;
- the documenting of the basis for evaluation in other words how it is it carried out;
- the documenting of all assumptions, which were made.

3. Cost management plan that predetermines a description of better way of management of the differences in value (for example, the different responses to the major and minor problems). Cost management plan can be formal and informal, very detailed and well-cut, which based on the needs of stakeholders. It is a subsidiary element of the overall project plan.

The value control. The value control is focused on:

- Identifying the factors which affect on the value basis, to ensure that these changes will be favorable;
- determination of that the value basis has changed;
- monitoring the actual changes according to its appearing.

The value control predetermines:

- tracking the cost completion in order to determine the deviations from the plan;
- ensuring of that the all appropriate changes are reflected accurately in valued basis;

- prevention of the inclusion the incorrect, inappropriate or unapproved changes to the cost basis;
- informing the appropriate stakeholders about the approved changes.

The cost control includes also the searching for the answers on the question "why?" concerning both positive and negative deviations. It must be carefully integrated by other control processes (the control of changes of content, planned scheduling, quality control and other types of control). For example, incorrect reactions on the deviations in value can cause the problems with quality or calendar schedule or unacceptably increasing of the risk in the latest stages of the project.

Input data for value control:

- 1) valuable basis;
- 2) reports about implementation, which contain the information on value correspondence of costs budget. Sometimes the reports about fulfillment help the team of the project managers the "bottlenecks", which can cause the problems in the future;
- 3) requests for changing. Changing requests may take various forms: oral and written, direct and indirect, initiated internally and externally, compulsory and optional. The changes may require the increasing of the budget and may also require its reduction;
- 4) the plan of value management.

Methods and means for value control:

1. The controlling system of changes the value, which set the procedures by which the valuable foundation can vary. The system predetermines the work with the documents, tracking system and the level of the authority, which are necessary for approval of changes. Control system changes of the value must be included into the overall control system.
2. Control over the implementation. The technology of controlling over the implementation helps to estimate any deviations that occur. Analysis of the amount spent is especially useful for the cost control. The definition of the reason of deviation is an important component of cost control, and the decision on whether the correction for this deviation is necessary.
3. An additional planning. A few projects are executed according to plan. The potential changes may require the new or adjusted estimates or analysis of alternative approaches.

The results of cost control:

1. Adjusted estimates. It is a change of valuable information, which is used for operation the project. The stakeholders must be informed if it is necessary. Adjusted estimates may require or may not the changes in other aspects of the overall plan of the project.
2. Adjustments of the budget. This is a special category of adjustments estimates; the changes of approved cost basis, the figures of which are adjusted only in accordance with changes in content. In some cases, the deviation of value can be so severe that the changes of cost basis are inevitable for providing the realistic control performance.
3. Corrective actions – are those actions, which occur in order to coordinate the expected future project performance indicators with its plan.
4. The evaluation after completion (EAC). It is a forecast of the final project cost, which is based on the fulfillment of the project.

The most common prediction technology based on the following variances:

- $EAC = \text{fact today} + \text{project budget, which has remained, changed by a factor of the fulfillment (often called as a cost performance index)}$. This approach is often used when the current deviation is similar to the estimated future;
- $EAC = \text{fact today} + \text{new evaluation for all the work, which has remained}$. This approach is often used when the fulfillment, which is already carried out shows that initial estimates were incorrect, or that they are more inadequate in order of changing the conditions;

- EAC = in fact today + budget, which has remained. This approach is often used when the current deviations are considerable as atypical and the project management team hopes that they will not have such deviations in future.

Each of the previously mentioned approaches may be appropriate for any particular work.

5. The learned lesson. The cases of deviations, reasons for choosing the actions of adjustments and other types of lessons learned as a result of cost control, should be documented in such a way to become a database as in this project, and also in all other projects that are performed in this organization.

13.7. Communications management and monitoring of projects

Communicational management of the project. Communicational management of the project (the management of the interaction of communicatory relations) is the management feature, which is aimed at providing the timely collection, generation, distribution and preservation of the necessary project information.

Under the information we consider the collected, processed and distributed data. To be useful for decision making, the information should be provided in time, by the purpose and in a convenient form. This is achieved by using the modern information technologies within the system of management of the project.

The communications and information, which accompanies them is a kind of foundation for providing the coordination for the participators of the project. The management of communications systems provides the support for communication (interaction) between the project participants, the transferring of administrative and reporting information, which is aimed to achievement of project goals. Each participant is required to be prepared for interrelations within the project in accordance with his duties.

The function of managing the informational communication involves the following processes:

- a. communications planning – the determination of the informational needs of project participants (structure of information, dates and methods of delivering);
- b. the process of collection and distribution of information, the processes of regularly collection and timely delivering of the necessary information to project participants;
- c. reporting on project progress – the arrangement of the actual results of operations on the project, the correlation with planned operations and trend analysis, the forecasting;
- d. documenting of progress report- the process of collections, the adoption and the organization of keeping the documentation according the project.

The planning process of communicational system. The communicational plan is part of the general project plan. It includes:

- 1) the plan of acquisition of information, in which the informational sources and methods of its reception are determined ;
- 2) the plan of informational distribution, in which the consumers of information and delivery methods are determined;
- 3) a detailed description of each document, which has to be received or transmitted, including the format, content, the level of detailing and the definitions, which are used;
- 4) the plan of the operation of certain types of communications;
- 5) the methods of updating and improving of communications plan. Communications plan is formalized and detailed depending on the needs of the project.

- 6) the collection and distribution of information. There is the need of implementation of different types of communications within the project:
- internal (inside the project team) and external (with the management of the company, with the customer, and external organizations, etc.);
 - Formal (reports, requests, meetings) and informal (reminders, discussion);
 - written and oral;
 - vertical and horizontal.

The systems of collection and distribution of information should provide the needs of different types of communications. For these purposes the automated and non-automated methods of collecting are used, the methods of adoption and transmitting of information. Non-automated methods predetermine the collection and transmission of data on paper, and holding the meetings.

The automated methods predetermine the usage of computer technologies and modern means of communication for increasing the effectiveness of collaboration: email, the systems of circulation of documents and data archiving.

The processes of collecting and adopting of data on actual results and delivering of information on performance reports provide the basis for coordinating, operational planning and management. Reporting progress includes:

- the information about the current state of the project in general and in terms of individual indicators;
- the information on their deviation from the basic plans;
- the forecasting of future state of the project. The report progress must be documented. The main intermediate results of the progress should be formally documented.

The documenting of the results of work progress includes:

- the collection and verification of the final data;
- the analysis and conclusions about the degree of achievement of project results and effectiveness of completed operations;
- the archiving of results for future using.

The computer systems of electronic archives – keeping give the opportunity to automate the processes of saving and indexing of textual and graphic documents, to ease the access to archival information.

The reporting about the project. The reporting about the fulfillment predetermines the collection and spreading the information on how to use resources for achieving the goals of the project, aimed to excite the curiosity of its stakeholders. This process includes:

1. Preparation of state report -the description of phase, which poses the project in that moment.
2. The reports about the progress –the description of successful moments of the team.
3. The forecast about the project – the prediction of the future status of the project and its development.

The reports on fulfillment in general have to provide the information according to the content of the planned schedule, its cost and quality. Some of them also require the information about the risk and purchasing. The reports can be comprehensive or oriented on certain situation.

The input data for reporting on the project implementation:

1. The project plan, which contains different inputs, which can be used for evaluation the project.
2. The results of work –is the information about the activities, which are completely or partially done, which explicit costs were spent and which were saved and so on. It is the result of fulfillment of the project. The results of work should be shown in the report in accordance with

the plan of communicational management. An accurate, uniform information about the results of work is necessary for planning the reports about fulfillment, which will be used in future.

3. The other facts about the project. Besides the project plan and the results of the project, the other documents contain also the information, according the content of the project and should be taken into account while evaluating the project.

The methods and means of reporting on project fulfillment:

1. The consideration of the accomplishment of the project, which is carried out at the special meeting, as a rule, such proceedings are based on reports about the fulfillment, the technologies of making, which follow further.
2. The analysis of variances, which is based on the comparison of actual results with planned or expected ones. The costs and schedules are analyzed more, but the deviations from the plan, content and quality and risks often appear also very important.
3. The trends analysis, which includes the researching by a certain periods of time the project results, aimed to determine whether the implementation is improved or not.
4. The analysis of the learned volume in various forms with the most frequently used method of control of fulfillment. It consists in control of the content parameters, cost and planned schedule and helps a team of project managers to evaluate the fulfillment of the project.

The analysis of the learned volume contains the control of the following three basic parameters for each kind of work:

The reporting results of the project are:

1. The progress reports which summarize the collected information and give the results of the analysis. The given kinds of information and the level of detailing are given in reports. They are required for different stakeholders, who have to be such, as it is documented in plan of communicational management.

The usual forms of project reporting include linear graphs (Gantt charts), 5-curves, histograms and tables.

2. Requests for changes. The analysis of the project fulfillment generates often the request according to changing of some aspects of the project. These requests for changes are managed in such way as it is determined in different processes of control of the changes (for example, the management of changing the contents, controlling the fulfillment of the planned schedule, etc).

The purpose, types and trends of monitoring. Planning and monitoring of the investment process on a particular object is carried out by the subjects of investment in accordance with following documents:

- the permission for building;
- engineering estimates;
- the construction project;
- program input facility;
- production plan (phase operation);
- plan of construction financing.

All these documents are attached to the business plan of the project.

The mechanism of continuous control over the process of investing is called the monitoring of investment projects. The total monitoring of the project is carried out by investor (customer) or by management of the companies that are being built. Such kind of monitoring is carried out by the firms – developers, by agreement with investors. Depending on the functions of the participants of investment activity the monitoring can be specialized by types: financial, marketing, technical.

Marketing monitoring is carried out with the aim of providing the deliveries of building material and technical resources in time, and it is carried out by those participants, who are responsible for material and technical supplying of the building.

Financial monitoring is carried out by the investor, the customer, the firm -developer on his order, and also by the other participants or the project of the first stage of investing (design and construction). Under the conditions which exist in Ukraine, the evaluation of fulfillment of annual program can be carried out in accordance with the locations of the payment for construction and installation work. The costs, which are spent on each element and also the renting or purchasing of the land, are fallen under the constant observation. Monitoring is carried out in terms of funding sources: their own, borrowed or raised funds.

Besides the investor and his representatives **the technical monitoring** is usually carried out by the general designer and other designers by the author's control. This type of monitoring is carried out with the aim of providing the responsibilities of space-planning, design solutions and technical specifications.

Questions for self-check:

1. Give the definition of invested project. Discover the main points of the notion of the project management.
2. Describe the factors (external and internal) which affect the context of the project.
3. What is the classification of projects according to their basic properties?
4. What is the essence of developing the project concept?
5. Describe the main stages of the project life cycle.
6. What are the advantages and disadvantages of the basic organizational structures for project management?
7. What are the functions and tasks of project managers?
8. What is the place and value of projects in the investment strategy of the enterprise?
9. Describe the main stages of organizing the designing.
10. How do you understand by the decomposition of kinds of work?
11. Describe the main stages of the development project plan.
12. Describe the methods and means of evaluation the work duration.
13. Describe the main stages of process of control the fulfillment of the project.
14. What is the essence of the project estimates documentation?
15. What are the documents of the project? Name their forms, classification, requirements for them?
16. Expand the content of the concept planning project costs.
17. What are the advantages and disadvantages of the methods and means of evaluating of the project costs?
18. What is the nature and content of communication management?
19. What purposes, types, and ways of monitoring of the project do you know?
20. Expand the contents of the main kinds of project appraisal.

CHAPTER 14. LOGISTICS

Objective: formation of abilities and skills concerning the mechanism of logistic systems reproduction, effective management of material flows.

Subject: general regularities of logistic systems development, management peculiarities and tendencies and material flows optimization.

Content modules: Basic logistic concepts and definitions. Conceptual logistic essentials. Methodological logistic devices. Method of production and business systems planning and management. System analysis method. Logistic system simulation methods. Functional logistic method. Account management. Procurement management. Production logistics. Distribution and physical distribution of wares. Inventory management. Transport logistics. Warehouse logistics. Dataware for logistic management.

14.1. Essence, aims and functions of logistics

Logistics is considered to be originated in the military's need to supply themselves with arms, ammunition and rations as they moved from their base to a forward position. However gradually logistics as a specific kind of activity passed from the military sphere into the sphere of economic practice.

Nowadays under *logistics* we understand ***the scientific discipline (or kind of practice), that is connected with the planning, arrangement, management, control and regulation of material and informational flows in space and in time from their source to the final consumer.***

Logistic study should rely on the understanding of the logistic approach conceptual idea - strengthening of the importance of the activity, connecting with the material flows management.

Logistics concept - is the viewpoint system on the rationalization of economical activity by means of stream processes optimization.

The reasons for the transition to the logistics concept are:

- Energy crisis of 70th XX century, which induced to the search of the non-traditional ways of reducing expenses, and, in particular, logistic expenses (expenses for stock conservation, selling, distribution and transportation etc.);
- Transition from the seller's market to the consumer's market (from the “production concept” to the “marketing concept”), that led to the jump in competition and induced to the search of new ways of providing of competitive advantages due to cost saving by logistic operations rationalization and by the delivery quality improvement (logistic service);
- Scientific and technological progress achievements, and, in particular, management computerization, which allowed controlling of all the main and auxiliary processes in production and distribution spheres efficiently.

Fundamentals of the logistic concept:

1. Usage of systems approach in logistics. We can obtain an optimum effect by optimization of either total material flow at its whole distance, or at certain considerable fragments. But all these links of material chain should be considered as parts of the corresponding macrologistic or micrologistic systems.
2. Renunciation of using of universal technological and lifting-and-shifting equipment and special equipment usage for the realization of logistic operation. To use the logistic approach one should have a high level of scientific and technical development.
3. Humanization of technological processes in logistics, creating of modern working conditions, using of specially-trained personnel.

4. Taking into consideration the logistic expenses at the whole distance of logistic chain.
5. Development of the logistic service facilities at the state-of-the-art level.
6. Provision of the logistic systems abilities to adapt under the circumstances of marketable environment ambiguity.

The chief logistic aim is the most complete with minimal expenses firm adaptation to the market situation, increasing of its own attendance at the market and the acquisition of the competitive advantages by means of creation of the integrated efficient system of management and control of material and information flows.

To the **special logistic aims** we can refer:

- Opportune provision of the cargo of corresponding quantity, quality and range to their consumption place;
- Inventory management of the stores;
- Accommodation of the allotment policy with the industrial policy;
- Formation of the optimal delivery and reprocessing lot size;
- Qualitative fulfillment of all the purchase orders at specified time.

All these aims can be determined with the help of “six logistic rules”:

1. Cargo - important ware.
2. Quality - of the required quality.
3. Quantity - in the required quantity.
4. Period - in the required time.
5. Place - in the required place.
6. Expenses - with the minimal expenses.

The tasks that appear in the process of material flows management are settling by an enterprises-producers, cargo enterprises, enterprises and organizations of wholesale and retail trading, profit-making intermediate organizations, which in total form logistic chains.

Logistic chain - is a group of partners, who reprocess incoming resources and information into outgoing products in the form of goods and services.

Each of these enterprises (organizations) is specialized in the fulfillment of a logistic function: integration, coordinating, regulating, controlling, planning, service.

Logistic function – if an enlarged group of logistic operations, which are directed to realize logistic system aims.

Logistic operation – the whole set of actions, directed to the transformation of material and information flows.

To the main logistic functions we can refer the following ones:

- Formation of commercial ties with the delivery of goods or rendering of services;
- Identification of volume and direction motions of material flows;
- Progress, allocation and the arrangement of warehousing;
- Inventory management;
- Transportation fulfillment;
- Storage operations management;
- Operational planning of the manufacturing.

Material flows as the main object of logistic management

At the end of 60th of XX century in the USA the concept “material flow” was formed, which became the basic logistic concept.

Material flow – is the whole set of material elements (cargo, material resources, objects of work in process, final products, goods), which are shifted among producers, profit-making

intermediate organizations and consumers, also among supplying, production and marketing enterprises subdivisions within time unit.

Materials management – is the planning-regulating forms and methods of arrangement of production means movement, worker’s labor, the usage of transport facilities, containers during the output movement and storage.

14.2. System approach to the material flow management

Methodological basis for the end-to-end control of the material flow is a system approach.

System approach means that every system is an integrated whole. It gives an opportunity to present a product, which is tested as a complex of interrelated subsystems, which are united on the basis of the common aim, to disclose its integration qualities, internal and external connections. Adoption of the managerial decisions without taking into consideration the common aims of system functioning and demands, which are making to it, may be partially or fully wrong.

It should be pointed out that system approach doesn't exist in the form of the strict methodological concept. Probably, this is the set of notional rules, gradual keeping of which, allows you to orient the specific researches.

During the organization of manufacturing systems should be taken into consideration the following principles (the main regulations) of the system approach:

- The principle of the gradual marketing through the phases of system creation. The observance of this principle means, that the system primarily should be studied at macrolevel, i.e. in interrelation with environment, and then at the microlevel, i.e. within its own structure;
- Coordination principle of informational, resort and other descriptions of designed systems;
- Principle of conflicts absence between the aims of special subsystem and the aim of the whole system;

The essence of system approach shows itself while comparing with the classic (inductive) approach to the systems formation. At the Fig. 14.1 the phases of the system formation under the classic (traditional) approach – from the partial to the common (induction principle) are presented.

- I. phase – the formation of the functioning aims of special subsystems;
- II. phase – information accumulation, analysis and selection for the formation of special subsystems;
- III. phase – the whole system and its special subsystems formation.

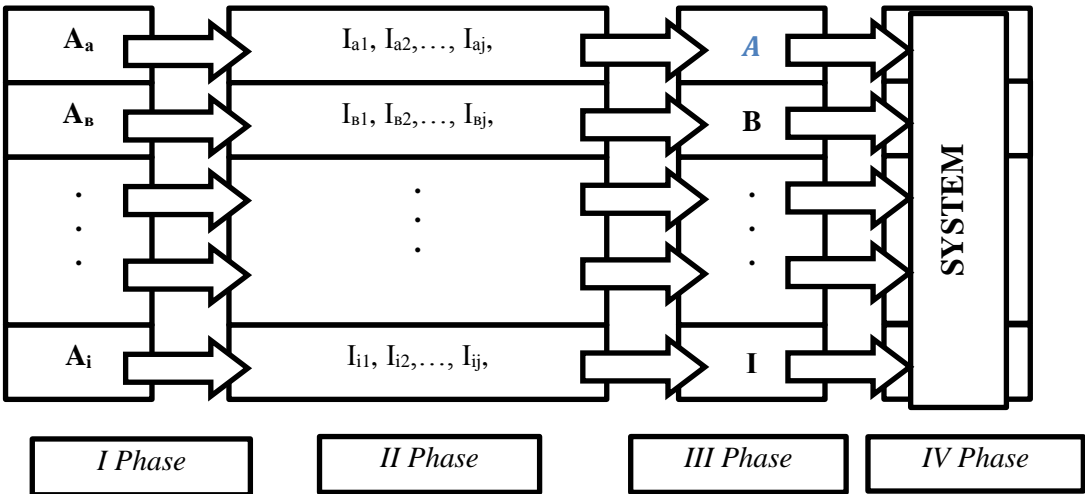


Figure 14.1 – System formation under the classic (traditional) approach.

In contrast to the classic, the system approach needs sequential transition from the common to the partial (deduction principle), when the ultimate aim, for which the system is creating, forms the basis (Fig. 14.2).

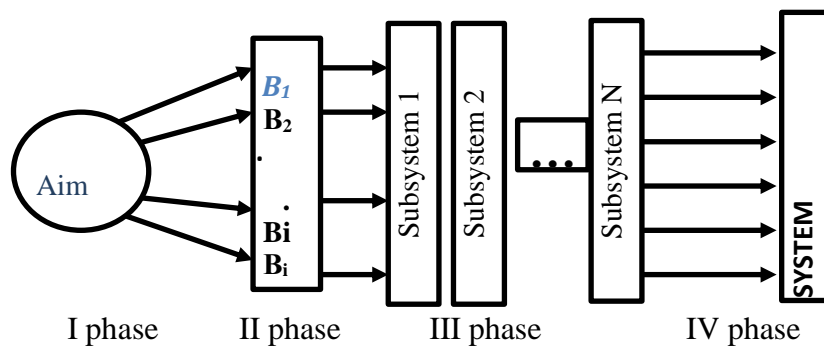


Figure 14.2 – Formation of the system using a systems approach

I phase – formation of aims of system functioning in whole;

II phase – formation of the system requests on the basis of system aims analysis and the limitations of environment;

III phase – an approximate formation of special systems.

IV phase – on the basis of systems versions analysis, their selection and the system forms in whole is drawing.

Analysis phases and production systems designing:

1. ***Problem orientation.*** Problems identification on the basis of aims analysis both the whole system and various its subsystems.
2. ***Flows scheme formation (material flow, flow of energy, information flow etc).*** The designing of material, energy, information traffic diagram. The graphic presentation of the designed system.
3. ***Simulator system designing.***
4. ***Separate system component formation (subsystems, ties, blocks).***
5. ***Information-managerial subsystem formation.*** Control center identification. Information-managerial subsystem building.
6. ***Provision of system effectiveness according to the criteria: simplicity, flexibility, reliability, economy, maintainability.***

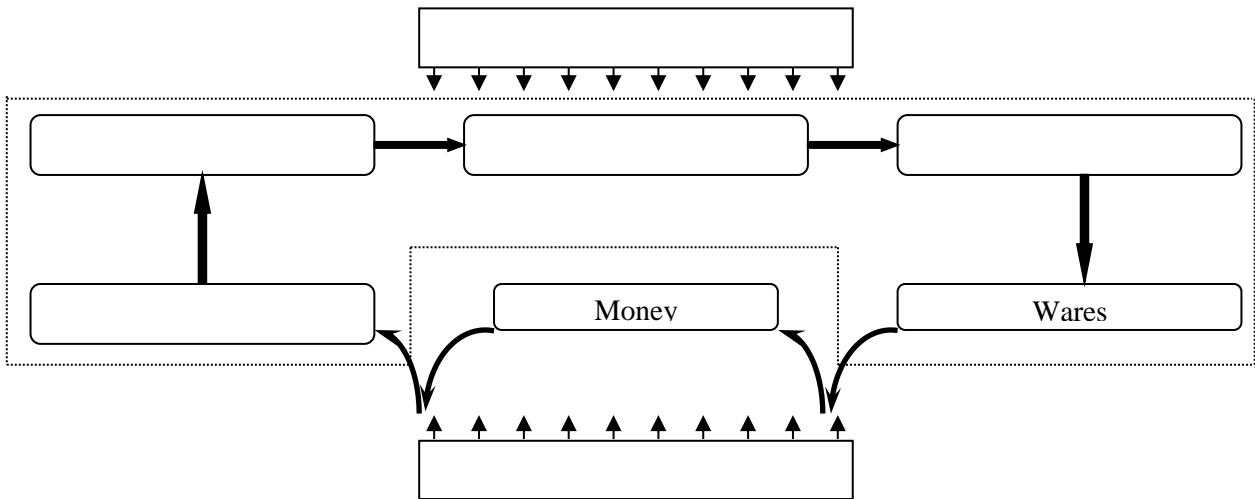
Logistic systems

The concept of logistic system is one of the fundamental logistic concepts.

Logistic system is an adaptive system with the continuous process, which is intended for the logistic functions fulfillment.

To the logistic system components we refer: purchase subsystem, sales subsystem, productive maintenance, warehouses, store, transport, personnel, information etc.

Logistic systems boundaries are identified with the help of the means of production cycle, which was named “money payment – receipt of money” (Fig. 14.3).



Logistic systems are divided into macro- and micrologistic.

Macrologistic systems – large systems of materials management, which involve industrial enterprises and organization, mediatory, trade and shipping organizations, which are situated in various regions and countries (Fig. 14.4).

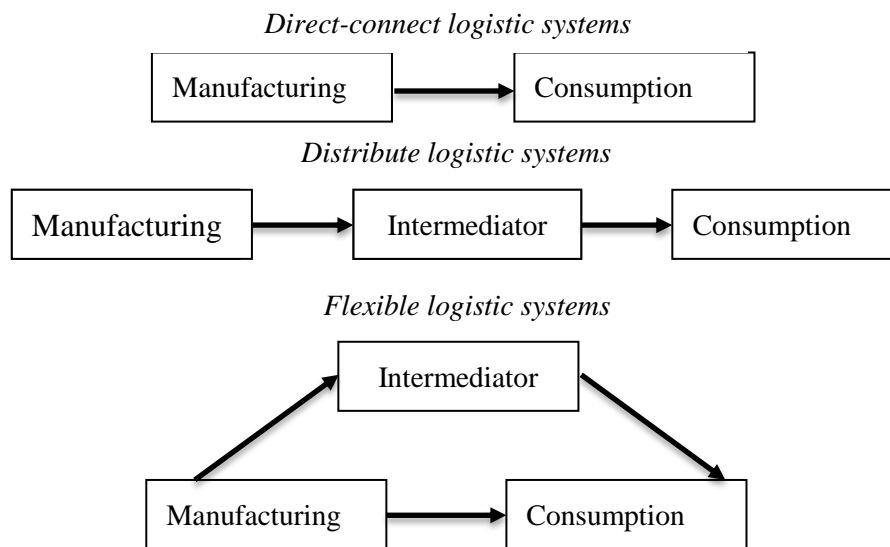


Figure 14.4 – Kinds of the macrologistic systems

Micrologistic systems – are the subsystems, structural unit of macrologistic systems. Micrologistic systems create a class of intraindustrial logistic systems (Fig. 14.5).

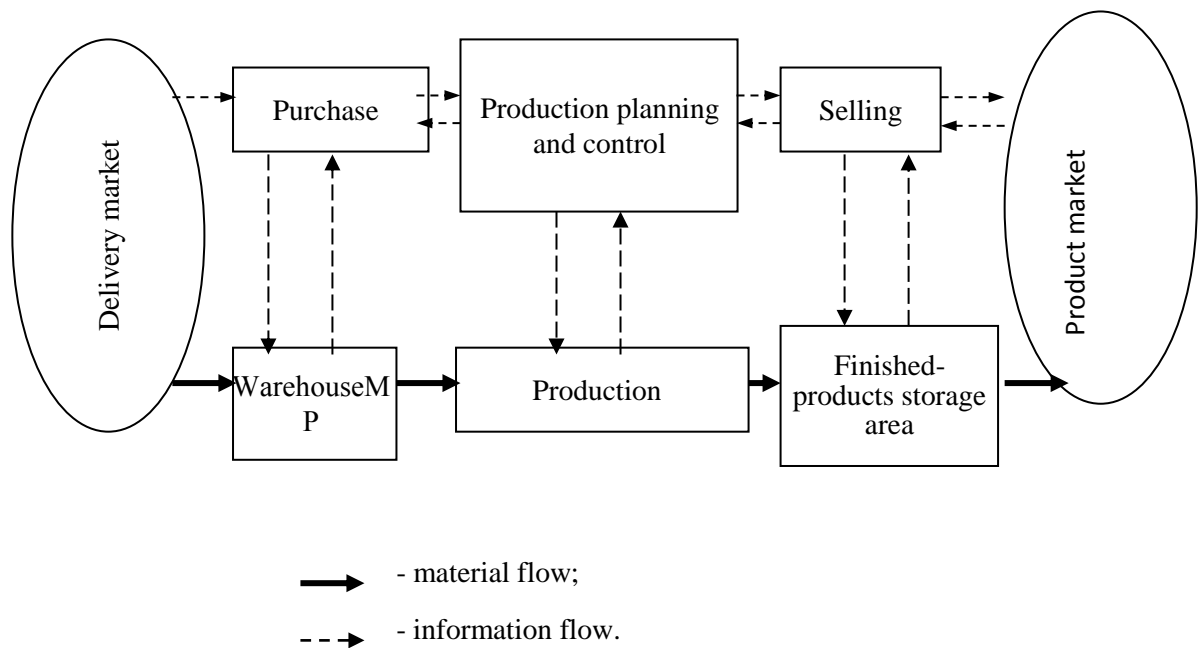


Figure 14.5 – Micrologistic system scheme

14.3. Organizational and economic mechanisms of material and commodity flow management

Material and goods flows management is realized with the help of economic-organizing mechanisms.

Economic-organizing mechanism – is the system of economic ties and interrelations and corresponding to them economic-organizing forms, which provide the conciliation of the interests.

Goods and material control at macrolevel.

The aim of economic-organizing mechanism of goods and material control at macrolevel is manufacture balance and consumption provision and optimization of goods flow movement.

Logistic management tasks at macrolevel are: intersectorial material balances formation; administrative-territorial distributive system and product line flows optimization; warehouse complexes of general use, freight terminals, control centers disposition on the given territories; transportation arrangement and coordination of different modes of transport in transport nodal points etc.

In the network of macrologistic systems ties are settled on the basis of commodity-money relations.

We can balance concrete goods production and consumption, and, thereby optimize Distribution by means of the use of one of the two economic-organizing mechanisms: *rationing or market mechanism*.

Rationing mechanism

The essence: by the authoritarian decision the volume of the given goods consumption is limited by its certain quantity, which is provided with the certain volume of output.

Hardship connected with rationing mechanism adoption:

- It is necessary to know the reliable information about the actual volume of output with a glance at inventories size;
- It is necessary to know the information about needs (including the potential consumption);
- Complexity of the actual consumption rate fixing;

- Difficulties with distribution – the delivery of the goods to those for whom these goods are meant.

Market mechanism

The essence: the balance between the production and consumption is reached through the law of demand and law of supply under free market conditions.

Hardship connected with market mechanism adoption:

- The existing of perfect market is needed, when every participant has an opportunity of an immediate and absolute access to the information about the conditions of all the concluded agreements at the market;
- It is necessary to form the standard ideas about the given goods.
- It's needed to have the motives of private interest, which the exchange participants have;
- Market freedom should be based on the individualism;
- It is necessary to sort out the bankruptcy procedures, i.e. to remove the inefficient producers.

The market mechanism exists only on conditions of perfect competition and doesn't allow its divergences.

In the process of good circulation arrangement in countries with developed market relations there is a big variety of firms, organizations, enterprises and separate persons, which fulfill intermediary functions. The main types of intermediary enterprises and organizations are: distributors, buying headquarters, manufacturer and marketing representatives, merchandise agents, commodities brokers and jobbers, purchasing offices, auctions, commodity exchanges, consignees, franchisors, offerers, marketing organizations of industrial companies etc.

Under conditions of market economics a self-sufficient, active and highly-qualified mediator is the main organizer and coordinator of economic relations between the suppliers and consumers.

With that, even under the conditions of mainly market systems economic functions of the government play the essential role (mixed economy) – all the really functioning macroeconomic systems are fixed. In mixed economy the government is fully integrated into the circulation of material, goods flows and funds, create an economic organism – Fig. 14.6 (by R. McConnell and S. L. Brue).

Material and goods flows control at microlevel.

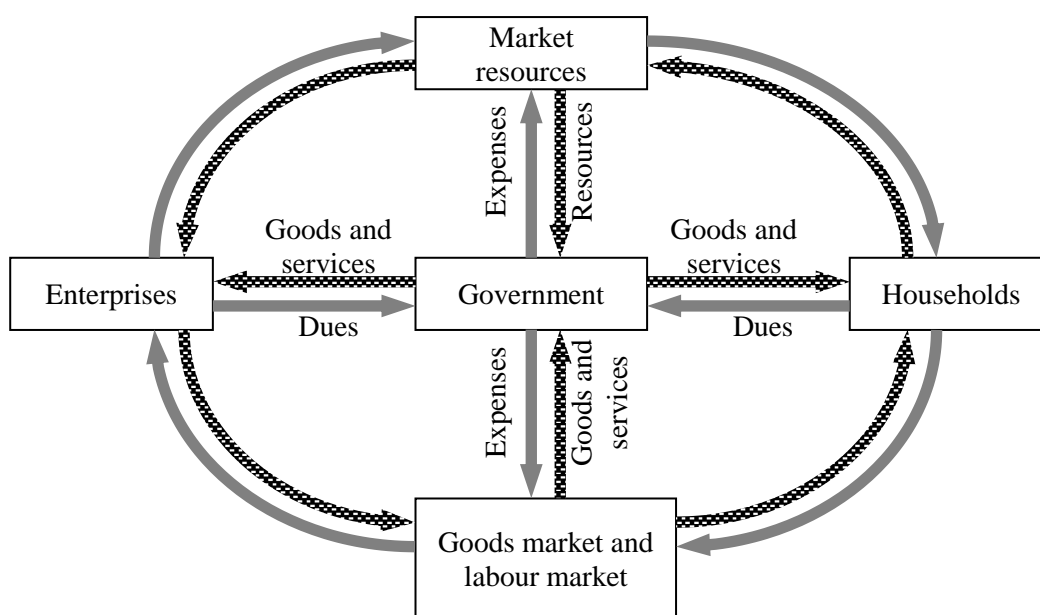


Figure 14.6 – Circulation of income, resources and labour products.

At the microlevel the basis of interrelation between different subsystems is unsecured with commodities. These relations are between the separate firm, association and other economic system subsections, which work for the integrated economic result.

Material and goods flows control at microlevel.

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The tasks of the logistic management at the microlevel are the following:

- 1) In the production sphere – the planning of the production tasks with the detailed schedule of output, distribution of production plan according to the production sectors of the enterprise, labour quality control.
- 2) In the handing work of materials, which are transporting – inventory control, movement, ties, information flows arrangement, trade dressing, their storing, warehousing, cargo-handling operations and packaging arrangement of consignment.
- 3) In marketing - market, delivery service arrangement, financing, accounts, material incentive research.
- 4) In consumption – custom designing and goods delivery, reserves warehousing, consumers’ provision, orders financing.

The scientists single out such functional kinds of logistics (logistic management), as: purchase, production, marketing (distributive), store, warehousing, shipping and informational logistics.

Control of in-production material flows at the macrolevel can be performed with the help of different mechanisms; among them they point out 2 the most important: *push system and pull system*.

“*Push system*” – is a system of organization of production, where the subjects of labour, which come in production division, are not ordered by this division. Material flow is pushed out to the recipient according to the command of central production control system (Fig. 14.7).

“*Push system*” is typical for the traditional organizing production method. The possibilities of use were increased because of production computerization. It allowed to co-ordinate all the actions of production subdivisions. But the characteristics of the material flow are as much optimal as the central control system can take into account all the factors, which influence the production situation.

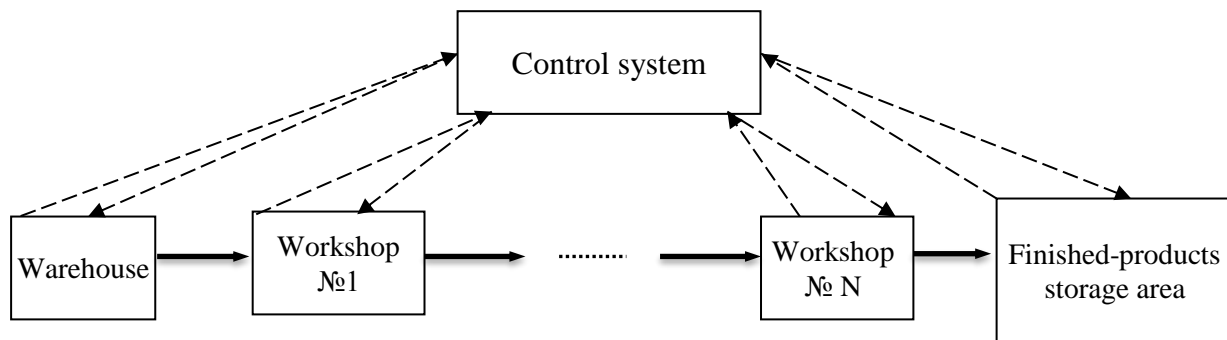


Figure 14.7 – Push system of flows control

Modern push systems – are “systems of financial regulation” (“Systems FR”). They allow you to provide ongoing management and inventory control, coordinate and promptly adjust plans and actions of different utility services - supply, production, and marketing.

"Pull system" - a system of production in which work items are submitted to the next technological operation as necessary. Central control system does not intervene in the exchange of material flows between different areas of the enterprise, identifying the task is only a finite chain of production chain (Fig. 14.8).

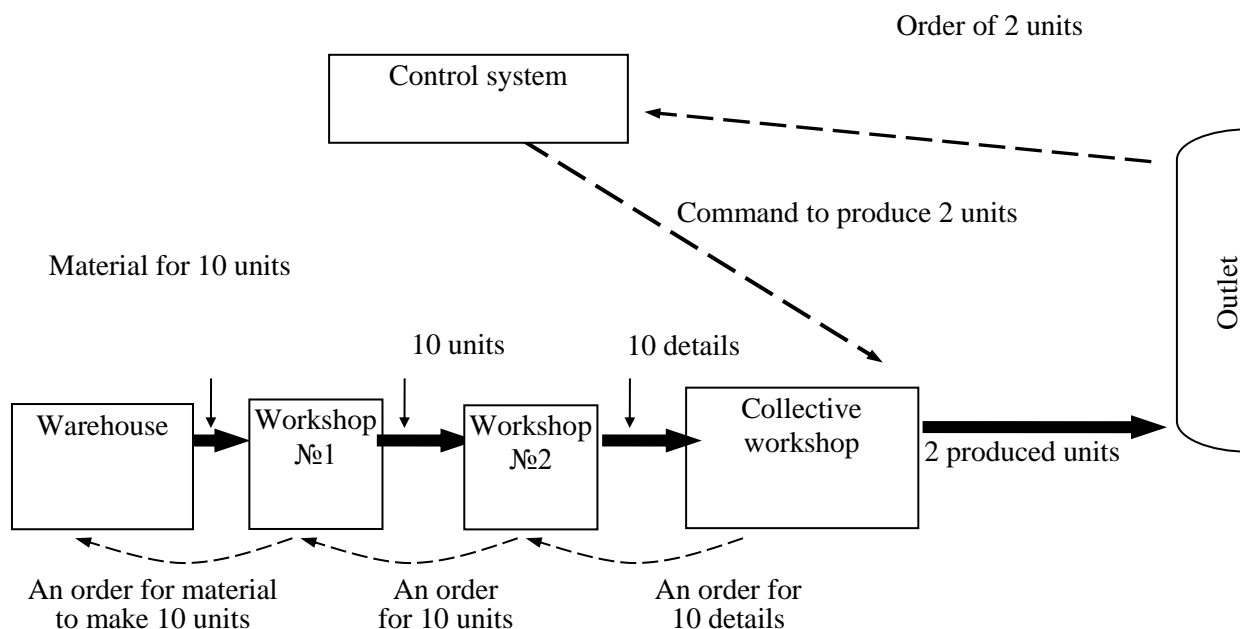


Figure 14.8 – Pull system of flows control

An example of modern systems is a pull system "Kanban". The system does not require the total computerization of production, but requires high discipline and high supply of staff responsibility. System "Kanban" was firstly developed and implemented by the Toyota (Japan).

"Kanban" - square card in a plastic envelope, which recorded the type and quantity of products. "Kanban" is addressed to the employees of prior production area.

There are two types of cards: the cards of selection and cards of production order.

In selecting card indicates the number of details which should take part in the previous processing, and card of production order - the number of details that must be made at the previous site of production. Goals: "Kanban" circulating within individual companies as Toyota, and between the corporation and the companies that cooperate with it.

An important condition for the use of "Kanban" is the alignment of the production according to efficiency (implementation of the principle of proportionality). It allows: to reduce significantly inventory, speed up the turnover of capital, improve the quality of products.

Organizational form of flows control at the micro level

Industrial firms in countries with developed market economy use two forms of flows control organization, which are based on the principles of logistic management - *centralized* and *decentralized*. For each of these forms it *grouped* or *scattered* logistics service is typical.

Under the grouped logistic service all its subdivisions, which perform different functions (delivery, marketing, storekeeping, shipping etc.) are under the authority of one department. For the scattered service it is typical the de-concentration of subdivisions to 2 or more departments.

Centralized form of flows control is applied in firms, which produce the homogeneous production and have a large amount of enterprises, which are situated in one region.

Decentralized form of flows control is applied in firms with the enterprises, which are situated in several regions, which are specialized on the production of one or two kinds of goods (i.e. in firms with diversified production).

Mixed form (is applied seldom) occurs in firms with several enterprises, which use different materials and primary products, receiving meanwhile some of them in a big amount.

Centralization of the management allows reducing of the circulation expenses because of: the purchase of the greater resources volumes; reducing of material stores in every concrete department; increasing of activity coordination with the other firm services; reducing of expenses for the designing and operation of the smaller quantity of information-controlling systems.

And with it centralization adds certain difficulties connected with the responsibility losses of subdivisions, which are responsible for profit earning.

The practice of American firms shows that efforts consolidation of specialized mechanism of control by the huge corporation is impossible without the creating of special managerial mechanisms at different levels of management for the activity coordination of the separate functional links.

In small corporations the whole volume of coordination functions is concentrated, as a rule, in hands of general management. We can point out 2 directions of the coordination improving in the subsystem of material flows control at the enterprise. The first direction is using of different coordinate mechanisms; the second one – organizational transformations in the enterprise structure. In practice mentioned directions are complementary.

Coordination methods are also widely used with the help of created procedures and models, which regulate managers' actions. They are job descriptions, normative documents, certain tasks, authorities, consecution of actions of managers of different functional subdivisions, which are responsible for the material resources control.

Kinds of organizational transformations in the enterprise structure

The first kind –special functional links are forming, in which all or major portion of planned, controlled, executive functions, which regulate the material flows movement.

The second – the special manager or ordering group is appointed.

The third - matrix management system with double subordination are creating.

Using such systems the timeliness of material supply increases to 95-97% contrary to 85-90%, finished products stocks in warehouses reduces on 10-12%, the volume of unfinished production – on 20-3%, the number of out-of-time breaches reduces on average on 30-35%.

14.4. Organization of logistic planning

Logistic planning starts with the designing of logistics strategy. Logistic strategy should be the part of the production strategy.

To the logistic system during the strategy designing should be included: shipping operations and expenses, facility, connections, orders processing, inventory control, lift-and-carry works, planned and control systems, organizational systems.

The formation of logistic strategy involves questions:

- Analysis of market needs changes (market analysis);
- Increasing of demands to logistics (time constraints, reliability of delivery, package orders contents);

- Production breakup according to the principle Pareto (the main stream dues on the limited quantity of goods);
- Attention to the special kinds of activity (labeling, packing);
- Provision of logistic system flexibility;
- Identification of the optimal degree of store;
- Improvement of logistic supplier indicator.

Theoretically logistic planning can be represented in the form of the totality the following elements:

1. Demand forecasting – the first link of the chain. Without it the planning is impossible;
2. Production planning;
3. Production distribution planning;
4. Delivery planning;
5. Appraisal plan of the results of logistic system functioning.

Here we can refer 2 subsystems:

- 1) System of accounting and control of orders fulfillment, which comes from clients;
- 2) System of accounting and control of orders fulfillment of an enterprise by its suppliers.

The elements enumerated above are situated in chronological order of the corresponding tasks fulfillment.

Let's examine in detail the sequence of the logistic planning implementation.

Demand forecasting:

- 1) Analysis of the demand retrospection (during long period of time);
- 2) Creation of goods and clients typology(classification) and development of the potential forecasting methods;
- 3) Forecasting methods selection;
- 4) Implementation of forecasting accounts;
- 5) Permanent identification of divergences;
- 6) Estimation of forecasting results.

Production planning:

- 1) Accounting of resources that suppliers have;
- 2) Prior resources selection;
- 3) Identification of facility needs;
- 4) Designing of off-take programs;
- 5) Production planning and control of the orders fulfillment at the workshop level;
- 6) Results estimation.

Distribution planning:

- 1) Designing of the general marketing plan. Here ascertains the volume of existing resources which suppliers have (optimization of the programme implementation).
- 2) Designing of the flows movement programme along the whole distribution net;
- 3) Optimization of needs connected with storage spaces and transport;
- 4) Scheduling of goods preparation for the shipment and delivery to the consumer;
- 5) Estimation of results.

Delivery planning

It is the planning of delivery according to the existing orders with taking into account the limitations on the side of the existing inventory in the production and in the distribution network (delivery service doesn't involve the subdivision of "purchase").

Delivery plan of an enterprise – is the totality of plan-accounting where the need in means of production is explained and the sources of its satisfaction are identified. It consists of 2 parts: account of the need in material resources and the balance of material providing.

Delivery plans of enterprises are created both in the natural and cost expression.

Plans in natural units of measurement identify the need of the enterprise in means of production. They are the basis for the planning of handling-and-storage economy.

Plans in the cost expression allow to coordinate the logistical support with other plans and allow to plan the cost value, profit, an amount of investments and circulating money.

14.5. Functional logistic management

In the modern theoretical and practical activity they distinguish 3 directions, which simultaneously study and develop per se one subject, in different in form but common in contents definitions and terms: they are organization of production, operating management and logistics.

The first two disciplines the production as their subject of investigation, the third – purchases, distribution and production. Not paying attention to some divergences in practice there exist the reciprocal exchange and reciprocal penetration of 3 theoretical and practical disciplines into the new discipline about the organizing, planning, and material flows control, which is called logistic management.

The use of the term “logistics” and “management” underlines, that they concern the production activity within the market environment. Integration of the subject area, which developed earlier separately, happened not on its own account, but as the answer of the theory to the needs of the economic practice, which was formed under the influence of the outer market environment.

Logistics brings into the control of the activity of economic subjects the new approach – logistic approach with its orientation on the consumer, and on the quality of services.

Production and operating management brought into the control of activities of market participants (sellers, costumers and mediators) powerful instruments, which earlier was unknown in the distribution chain – the system of methods of the acceptance of strategic, tactical and operational decisions in the sphere of operating activity, which provide efficient organization, planning and control of all the working procedures at every operation, over each element of the material flow. Cumulative and proved during many years economic-mathematics methods and models began to be used not only to minimize the expenses of production, but also for the optimization of general logistic expenses along the whole chain of good delivery from the primary source to the ultimate consumer.

Logistic management, using the methods of operating management in firm running, provides the fulfillment of all the working processes with the minimal expenses, including purchasing of material resources and finished products distribution with its delivery to the consumer.

The scientists point out such functional kinds of logistics (logistic management), as: purchase, production, marketing (distributional), inventory, warehousing, shipping and informational.

14.6. Purchase logistics

Purchase logistics – is the material flows control in the process of providing the enterprise with material resources, goods.

The main aim of purchase logistics consists in the production need satisfaction in material resources with the maximum possible efficiency.

The main tasks of purchase logistics are such:

- 1) To identify the necessary volume, assortment and rational regimes of the material resources supply into the production, and also boundary-allowed prices and other expenses concerning the purchase and delivery of production.
- 2) To choose the most acceptable suppliers, to coordinate with them all the conditions of supply and to conclude with them the agreements, which fix the achieved understanding;

- 3) To keep to the well-founded terms of the resources purchase;
- 4) To provide an accurate relation between the quantity of supplies and their needs;
- 5) To organize an efficient supplying working places with resources;
- 6) To control economic parameters of the supplying process and to look for new possibilities to reduce expenses, which are connected with the movement of the incoming material flows and use of material resources.

The realization of the given aim and tasks of the purchase logistics is achieved by means of the range of *functions*:

1. Arrangement of search and purchase of the necessary material resources of the appropriate quality and for minimal prices.

The successful fulfillment of purchasing expects the presence of the exhaustive information about the market state, its organization (balance between demand and supply). The instrument of producers' goods purchase market is requests of the potential customers.

There are wholesale and regular purchases of short-run batches, as the need arises and other combinations of the listed below methods.

The advantages of the *wholesale* purchase are the simplicity of preparation, delivery guarantee of the whole lot, considerable trade discounts. But such kind of purchase needs the availability of huge storage spaces and slows down the capital turnover.

The resources need in which appears unexpectedly and which don't require long storing, are purchased, as a rule, in terms, which are close to the pull date. The resources of one-time and permanent use, which are needed in certain moment, are purchased on terms of agreed provision, which stipulate the correct time of their delivery. Owing to such kind of provision the resources volume on the enterprise declines, and connected with it expenses reduce.

2. Purchasing price control. Price control takes into account also the additional works and services (consultation, document preparation, packing, tax, transportation etc.).
3. An analysis of transport charges. It involves not only the haul distance, but also the mode of transport, delivery speed, cargo lot, and the way of their packing.
4. Arrangement of material flows movement from the purchase market to the enterprise warehouses.

For the efficient functioning of stocking logistics it is necessary to design the purchase plan, which would provide the activity coordination of all the departments and responsible persons of an enterprise concerning the solution of the main tasks of purchasing logistics.

The main ways of choice of supplier

Choice of supplier may be performed by means of *competitive tendering* or writing negotiations between the suppliers and consumers. The rather widespread form of search of the potential suppliers is the *competitive tendering*. It is held in that case, when there the arranging of long-term cooperation between the supplier and the consumer and the profitable agreements for the both sides are foreseen.

The arrangement of competitive tendering is a very complicated and multi-aspect work.

Procedures for obtaining proposals from potential suppliers are **written submissions**. The initiative may also be taken by the consumer. If the initiator is a provider, he sends to potential buyers of its products offers for the supply of goods. Proposals or quotations may be firm and free.

Firm offers are sent only to one buyer, indicating the duration of the offer within which the seller can not change their conditions. Not getting the answer during this time is equal to the buyer's refusal from supply and relieves the seller from the proposal made. If the buyer accepts the offer, he sends to the seller within the term of the offer confirmation of the proposal. The seller may also obtain buyer counter stipulations. If contractors do not reach agreement during the term of proposal,

negotiations are continued, excluding the seller obligations, which were taken under a firm offer.

Free offer does not include any seller's obligation on the buyer. It may be sent to unlimited number of potential consumers. Under the free offer the negotiations initiator is the buyer. He sends a letter or commercial query to potential suppliers whose main object is to obtain a proposal (offer). Request contains all the relevant details (name of product, required quality, conditions and terms of delivery, payment, etc.) except the price, which is caused in offer response.

The main criterion for selection of proposals should be top quality and minimum price. Other criteria influencing the choice of supplier, is its location at a given distance from the user, the execution of orders, availability of service in reserve capacity, its creditworthiness, financial condition and so on.

For decision on the choice of provider in accordance with the listed criteria one should gather relevant information.

Selecting sources of information that can be custom research, consulting entities (banks, financial institutions, trade associations, news agencies) one should follow these rules:

- 1) not to be limited to one source of information;
- 2) at least one of the sources used should be independent, that is uninterested in the implications of the information provided.

14.7. Production Logistics

Products that are made go over time through various stages of production process. Thus, for the production of any product the material resources are involved - material substance that is raw materials, intermediate products, components. Material resources coming to the enterprise from outside and in the form of inventory are stored in Supply company warehouses, where they are prepared to the manufacturing process. Further material resources come directly to the production and change their economic substance. They act as already in progress products, i.e. different degree of readiness. At the producing stage the continuous time process of converting material elements which as a material stream flow through a series of production chains is held. Finally, after complete production process the products are ready for consumption and for some time they are on the company marketing warehouses, where they are prepared for sale.

Management of material flows in the above stages is the subject of *production logistics*.

Production logistics - logistics, covering the material flow processes and information flows, accompanying them inside the enterprise (company). Sometimes it is called - *internal logistics*.

Internal logistics covers production from the date of the financial resources income to the enterprise and to the finished product transfer in logistic distribution subsystem (sales), and includes the processes of internal transport and warehousing of raw materials, intermediate products, components, items of work, finished products and so on.

The main purpose of production logistics is to optimize complex production systems by streamlining flow processes at the individual enterprise to provide timely and complete delivery of products according to the concluded agreements.

The main objectives of internal logistics are:

- operational and scheduling with a detailed schedule of the finished production;
- operational process control manufacturing;
- overall quality control, maintenance of products quality standards and related services;
- strategic and operational planning of material resources supply;
- organization of internal storage facilities;
- forecasting, planning and regulation costs of material resources in manufacturing;

- organization of internal technological transport work;
- control and inventory management of material resources, work and finished products at all levels of internal storage system and in the technological process of production;
- internal physical distribution of material resources and finished products;
- informational and maintenance management processes of internal material flows;
- automatization and computerization of material and information flows in production.

The task of production logistics covering most aspects of production in modern factories.

Thus the logistics approach allows realizing systematic optimization of complex manufacturing systems.

Unlike the logistic, the traditional concept of production organization based on the following provisions:

- manufacturing integration as a secondary process;
- main purpose of the organization is striving for maximum performance;
- support with any means of a high rate of production capacity;
- deposits are formed only in the form of material resources and finished products;
- consistency of production, and supporting operations are inflated by the standards of time for their implementation;
- specialized equipment is preferred;
- production-oriented program output, warehousing of finished products;
- focusing on making large batches of products;
- spoilage is allowed within the established norms;
- passivity in the optimization of internal transportation.

Summary of conceptual positions indicates that the traditional concept of producing is the most acceptable for "market vendor" conditions, and logistics concept - for the terms "buyer's market".

As a science and practice the logistics purpose is to enhance the organization of internal systems, so it works closely with the production organization as the science of designing, development of internal systems. Laws and rules of production organization are the basis for solving logistical problems.

14.8. Distribution and physical distribution of goods

Marketing activities (physical distribution of goods) - is the process of moving finished products to the market and commodity exchange organization to obtain business income.

Marketing logistics, or distributive logistics - is an integral part of logistics activities associated with the organization of effective physical distribution of finished products.

It covers the entire chain of distribution system: marketing, transportation, storage and so on.

The main functions of marketing logistics can be combined into three groups:

- 1) *scheduling* (policy development and operational plans for sales; analysis and evaluation of market conditions; the formation of assortment plan to buyers order; choice of distribution channels and placement; planning of advertising campaigns and development of measures to stimulate sales; planning costs for marketing purposes and optimization);
- 2) *the functions of marketing* (organization of storage and packaging facilities for finished products, sales and product delivery to consumers; the organization of pre-sale and after-sales customer service; organization of placement channels and distribution networks; organization of advertising and sales promotion activities; organization of trade staff training and

management of trade missions; the organization of interaction between all divisions to achieve sales goals);

- 3) *the functions of monitoring and controlling* (evaluating the results of sales activities; plan monitoring sales; operational control of enterprise marketing activity including external and internal factors; evaluation and promotion activities of sales staff; statistical, financial and operational records of sales activity).

The main tasks of marketing logistics are as follows:

- 1) profits maximization by better meet consumer demand;
- 2) efficient usage of production machinery at the expense of optimal capacity utilization orders of customers;
- 3) rational behavior in the market according to its continuously variable conditions.

Goals, objectives and functions of marketing logistics require some form of organization of the final product sales.

Organization of marketing logistics: organizing the process of finished products sale with regard to the principles and methods of logistics; management sales organization as a set of logistics operations, logistics chains and logistics systems; the organization of interaction among sales activity participants, i.e. subjects of marketing logistics.

Marketing logistics as a set of interrelated logistical operations can be described in time within the operating system.

Operating system of sales (distribution) logistics consists of three subsystems: processing subsystem; supply subsystem; planning and control subsystem.

Meeting consumer demand is the result of interaction between all of the subsystems.

Processing subsystem charges sales job, making market signals about consumers' effective demand (entrance system) to required market goods and services (output system). Sale converter (demand translator) performs load of range production, quantitative and qualitative acceptance of finished products, organization of its storage and preparation for consumption, sales promotion and distribution channels of placement, pre-sale and after-sales customer service.

Software subsystem creates real logistical, financial and working conditions for the normal functioning of the processing subsystem. It includes: production of sales, including production of goods and services at the request of consumers, logistical support sales activities including establishment of warehouses, transport, trade and other communications; financial support of the production and sales, including funding of advertising campaign; marketing staffing services enterprises, including commercial training staff.

Planning and control subsystem can be classified as a management sub-system in the cyber model of marketing logistics. It forms the appropriate management decisions (plans, objectives), receives information about the reaction to them from the performers (feedback) and adjusts the behavior of sales activities in accordance with the goals and objectives. Preparation and approval of the administrative decision in this subsystem is active under the influence of external environment (economic, legal, political) and taking into account the internal organization of supply activities (of the service sales, warehouse and distribution functions in the divisions).

Mediation Logistics (distribution)

The high degree of commodity production development and exchange of business necessitates the presence of intermediaries in the distribution system and placement.

Commercial mediation is a process of services for the commodity exchange on the basis of equivalent producers and consumers.

Services provided by merchants to consumers, create conditions to material goods produced by many companies which are placed on larger areas, were available in such quantity and quality, in such place and at such time that are convenient for these customers. Merchants undertake such operations as folding and splitting consignments, transportation and storage of product range acquisition of goods and so on. So we can conclude that *trade* as a form of commercial mediation is a process of selling goods on terms as close as possible to the needs of producers (sellers) and consumers (buyers). The process of trade is largely reduced to the physical movement of goods from production areas to consumption areas.

The *main functions* of facilitation logistics are: planning and procurement of goods from producers (sellers); planning and delivery organization of purchased goods on base and storage of commercial intermediaries; organization of acceptance, placement, storage of goods at bases and warehouses of commercial intermediaries; merchandise management in trade; planning and organization of sales to customers; the organization of pre-sale and after-sales customer service.

Organization of trade logistics involves the following sequence of logistics:

- 1) *planning the procurement of goods for resale*. You need to know the effective buyers demand and have the necessary resources to meet identified demand;
- 2) *the choice of procurement forms*. The efficiency of trade logistics largely depends on the availability of alternatives in the planning and procurement;
- 3) *procurement of goods for resale*. It is desirable to follow the adopted plan and the best forms of procurement, responding quickly to changing of internal and external trade logistics;
- 4) *choice of forms inventory management*. It is possible to use different policies of commercial mediation. The policy is acknowledged as effective one under which the maximum reliability in the supply of goods to consumers is provided in the presence of a minimum inventory levels;
- 5) *inventory management*. A set of measures involves maintaining reserves at optimum levels. In addition, the logistics operation includes everything that is connected with storage processing of goods, even compute them on the shelves or special stands;
- 6) *selection of delivery forms*. The main focus of the commercial agents is selling (supply) of goods to consumers. There is a variety of ways to sell (supply) that allows you to set a suitable option buyer for each buyer, which also will be a benefit for the commercial mediation company;
- 7) *planning and organizing shipments*. The supply plan must be balanced with resources (financial and employment), placement technology, contractors, and other elements;
- 8) *choice of customer service forms*. Retail logistics acquires perfect form, when it contains not only purchasing and vendor activity, but also the maximum possible range of services related to the physical movement of goods and preparing them for consumption. The choosing a form of customer service should be guided by the optimal adequacy principle, the essence of which is that any service is mutually beneficial for the intermediary and for the buyer;
- 9) *customer service organization*. After the decision on the introduction of a service the technology of its providing should be designed and created the necessary organizational and economic backgrounds.

The basic difference of logistics trade organization from the traditional one - is a potential opportunity to receive benefits through the efforts integration of all participants in the process of physical movement of goods in commercial mediation.

14.9. Logistics service

One of the major forms of commercial relations is to provide logistic services. "By offering services to clients, the firm will almost always act in their interests. Providing additional services is a condition of making and successful implementation of the agreement, as well as the production of basic goods" - affirms the famous specialist in logistics T. Levitt.

Generalized the *service* means someone's action that is of benefit with another, and work of providing services that meet someone's needs, is called a *service*.

Depending on the *stage of service* one distinguishes the following types of logistics services:

- **resale (pre-sale) logistic services** - include the definition and planning of goods manufacturer in the field of logistics service system;
- **logistics services in the sale of goods** - provide any inventory in stock, order fulfillment (including variety selection, packing, loading of units and other operations), ensuring the reliability of delivery, providing information on movement of goods;
- **after-sales logistics services** - cover the warranty, the obligation to consider claims of customers, repairing works conducting, training the personnel for repairs, spare parts supply, service infrastructure, recycling of old products.

Classification of logistics services is performed as to the *functional features*: **transport, forwarding, packaging** and others.

In modern management practice the term "*logistics service*" is used to determine the concept of customer service.

Logistics services – is a set of functions and activities of all subsystems of the enterprise which enable relation “business-consumer”, in terms of each material and information flow as to the rates of nomenclature, quality, quantity, price, place and time delivery of products according to market requirements.

The main purpose of logistics service is to provide the required level of customer satisfaction of a claim with the lowest total costs, which provides a guaranteed product receipt of the relevant quality, quantity and range in a certain place at a certain time and at a specified price.

There are areas of logistics services like:

- **service of demand**, which includes services provided at all stages, and determine the time of delivery, completeness, quality, scope, availability and frequency of delivery and handling, reliability and timeliness, the way of order;
- **production service**, which provides services aimed at efficient use of its products and identify opportunities (revision and modification, debugging, testing, installation and commissioning, operation organization, staff training);
- **informational service maintenance**, which is determined by the volume and diversity of information available to the potential consumer about company products and its service (advertising, catalogs and price lists, technical documentation, rules guarantee operational documentation);
- **financial and credit service**, which consists in providing to customers a great variety of product payment options (actual payment, in installment, options of discounts and benefits, the opportunity of banking, commercial, trade and other forms of credit).

Stages of creating a logistics service system in the business:

1. Consumer market segmentation (the division of consumers into groups depending on the type of logistics services).
2. Definition of the most significant services through customer surveys.

3. The ranking of services those are included in the list by the value.
4. Definition of service standards for specific market segments.
5. Evaluation of logistics services for level and costs servicing.
6. Installing the feedback with customers.

In the western commercial practices one produced a number of "rules" or recommendations which not only greatly facilitate relationships with suppliers and customers, but also ensure the manufacturing state, create the conditions for survival in the competition. It is a peculiar code of ethics that describes partnerships standards.

It can be formulated in such a way: the basis of successful treatment and production under other equal conditions is good relations between employers on the one hand, and creditors, suppliers and customers – on the other.

The principles underlying the Code partnerships:

1. To treat the suppliers as the customers of the firm.
2. Do not forget to show the affairs of common interest.
3. To instruct suppliers and customers with your tasks and to be well informed with their business operations.
4. Show a willingness to help in case of partners problems.
5. Follow the commitments.
6. Consider the interests of partners in business practices.
7. Maintain stable contacts in the business world.

14.10. Inventory management

Inventories are the products of industrial supplies, which are in various stages of production and circulation, consumer products and other commodities, expecting to join the process of production or personal use.

The basic function of inventory is to ensure continuity of the social reproduction process. At all stages of the resources and work products cycle the material (commodity) flows serve as the other stores.

Thus, at its core inventory is a form of material flow existence.

In logistics the stocks are classified into ***productive***, which coordinate the continuous consumption with discreteness of their receipts from suppliers and ***brands***, which coordinate spaced deliveries of products from suppliers with a minimum release of its consumers. Inventory, in turn, are divided into ***stocks that are required directly in manufacturing***, and ***transportation stocks***, those that are created while transporting cargo. A specific type of stocks is ***state reserves***, which are formed for the guaranteed support during a required level time of human consumption of basic consumer goods in an emergency (natural disasters, wars, etc.).

The three levels of inventory are distinguished on enterprises :

1. ***Inventories of finished goods*** - allowing the sales to provide shorter delivery time than a full cycle of supply and manufacturing of these products. They smooth out irregularities or stop production. Sufficient stocks of finished products allow avoiding or delaying the consequences of production suspension because of repair, stoppage, strikes and so on. In addition, they are the regulator of production in the case of seasonal fluctuations in demand, which gives the opportunity to work at a constant level of performance.
2. ***Inventories work in progress (e.g., semi-produced)*** - are formed in various stages of production so that the stop process at any stage does not lead to a sudden stop of all future manufacturing process operations.

3. **Inventories purchased material resources - inventories (raw materials, semi-finished products, components)** - permit by reducing the frequency of orders to use trade discounts to get large quantities of resources and "speculate" on rates fluctuations or markets for raw materials. They provide protection against failures in suppliers, such as purchases of monopolists.

Classification under *performed inventories functions* can divide stocks of supplies into several groups, such as: *current, training, insurance, seasonal, transitional*.

Current stocks of supplies ensure continuity of essential material resources of the manufacturing process between their two regular deliveries, and provide trade and consumer with goods between two ordinary shipments of goods. Current stocks make up the bulk of production and inventory, their value is constantly changing.

Preliminary stocks (or buffer stocks) are allocated to inventory as needed additional training before using in production (e.g. dry forest). Preparations of stocks of commodity production are formed if necessary material resources should be prepared for sending in the production process.

Insurance stocks (or stocks warranty) are appointed for continuous supply of consumers in the event of an emergency: the deviation in the frequency and size of the planned party supplies, changes in the intensity of consumption, delayed deliveries and others. Unlike current stocks, the guarantee reserves - is the constant value and depends on the specific conditions of supply. Under normal operating conditions, these reserves are not used and are inviolable.

Seasonal stocks are formed by the seasonal nature of production, its consumption or transportation. Seasonal supplies should ensure the normal operation of the organization during the seasonal break in production, consumption or transportation of products.

Transitional stocks - are the residue of material resources at the end of the reporting period. They are intended to ensure continuity of production and consumption in the reporting and further period to the next delivery.

Classification of *time* divides stocks into:

- **the maximum desirable stock** defines the stock level, economically optimal in this system of inventory management. This level may be exceeded. In different management systems the maximum desirable stock is used as a benchmark for calculating the size of the order;
- **illiquid stocks** - are so-called production or inventory that are not used for a long time and are formed as a result of goods deterioration during storage, and moral deterioration.

The basic functions of inventory include the following:

- **regulating function**. Some supplies are needed, because it takes time to finish a production deal and more or less long time to switch to other operations;
- **economic function**. Some types of stocks at any level provide independence for some jobs, stations, shops; streamline production processes and / or distribution. However, the decline of these stocks to a minimum requires certain changes in organization and funding (quality control, maintenance, update materials, training of personnel, etc.);
- **function of bias**. Buffer stocks are needed in cases when stocks are consumed in predictable, but variable way and if it is desirable to smooth out these fluctuations with decrease or increase inventories, but not with changes of production system (technical, technological, etc.);
- **function of protection from accidents**. Sometimes **emergency reserves** are created, which are designed to protect against fluctuations in terms of supply and demand fluctuations in the same periods, to ensure continuity of the manufacturing process at its unforeseen disturbances;

- **feature production.** Inventory can be an integral part of production if there is a need for development of latent period required for a chemical reaction or product conversion (e.g., maturing of wine).

Effective use of reserves is achieved by the correct *organization of their management*, which includes:

1. Development of scientifically grounded inventory norms.
2. Reserves planning.
3. Accounting, analysis and control of inventories.
4. Rapid (current) reserves regulation.

Reserve rate - the minimum but sufficient amount of material elements that ensure continuity of production and circulation.

Stocks are standardized differentiated for each (often for current, preparatory, insurance stocks). Measured using natural resources or cost indices, stocks sometimes measured in days of supply.

The norm of current inventory is often set on the basis of a specified interval of planned delivery, i.e. time between two resource supply (goods) parties.

Methods for calculating the scheduled interval delivery:

- a) with a balanced range of supply (a graphic representation of the process is shown in Fig. 14.8):

$$t = \frac{V}{P}, \quad (14.1)$$

where t - is planned delivery interval, days; V – size of products supply party in physical terms; P - the planned average of daily consumption in physical terms;

- b) for irregular supply:

$$t_{B3B} = \frac{\sum_{i=1}^n t_i V_i}{\sum_{i=1}^n V_i}, \quad (14.2)$$

where t_{B3B} - the average delivery interval, days; t_i - actual delivery interval; V_i - the size of the party arrivals in the last period; $i = 1, 2, \dots, n$ - number of income received supplies in the last period.

Average rate of current inventory (Figure 9.14) is calculated by the formula

$$z_{nomcep.} = \frac{Pt}{2} = \frac{V}{2}, \quad (14.3)$$

A common method of rationing is a typical inventory. This method allows considering the impact on the rate of supply not only by the intervals of supply but uneven materials consumption. This is achieved because the calculations are conducted on the basis of various calculations of material resources. With relatively uniform consumption – the account is done by month, with uneven consumption records are held on specific dates.

The norm of preparatory inventory is determined by the formula

$$Z_{ni\partial z} = p \cdot (t_{3B} + t_{cn}), \quad (14.4)$$

where t_{3B} - time for normal operations (unloading of materials, their acceptance, documents and so on. - under the recommendation of the typical methods this time is equal to one day); t_{cn} - time for special preparatory operations (drying, defrost, dry cleaning, sorting, etc.).

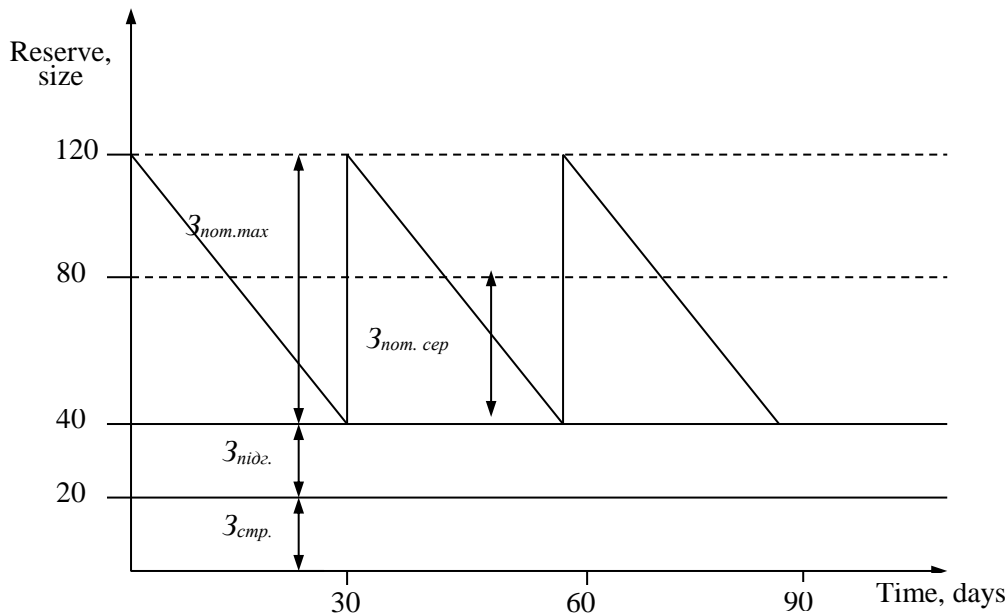


Figure 14.9 – Hypothetical graph of inventory

Compulsory insurance inventory is determined by different methods.

The most common is the method which is based on the calculation of the average standard deviation of the actual supply gap from the average planned value:

$$Z_{cmp.} = p \cdot \sqrt{\frac{\sum_{i=1}^n (t_i - \bar{t}_i)^2 V_i}{\sum_{i=1}^n V_i}}, \quad (14.5)$$

where t_i – actual delivery interval; \bar{t}_i – average delivery interval; V_i – size of the party arrival for the last period; p – regular daily average consumption in physical terms; $i = 1, 2, \dots, n$ – number of income received supplies for the last period.

According to the theory of mathematical statistics insurance rate reserve, calculated by this formula ensures continuity of production supply at 68, 3%.

In a typical method the insurance stock is set at 25% maximum deviation from the current level of inventory to shipments from its medium.

Inventory stock rate is equal to the sum of mentioned above:

$$Z_B = Z_{nom.} + Z_{ni\partial z} + Z_{cmp.} \quad (14.6)$$

Optimization criterion is the minimum values of stocks in total costs to inventories maintain and repeat of order. This criterion takes into account three factors that affect the value of total expenditures:

1. Price of maintenance warehouse area.
2. The costs of conservation reserves.
3. The cost of the order.

There is a great amount of inventory optimization models in logistics. The most common is the so-called *Wilson's formula*. And it seeks to minimize variable costs for inventory management.

Complete variable costs of inventory management - cost of the order fulfillment and cost saving inventory in stock.

The cost of the order. It costs pursuant to an order by the number of orders made during the period in question.

Costs to maintain inventory in stock. Assume that the inventory is continuously changing from the ordered quantity Q to 0, then increase to Q (when receiving a new order).

Accordingly, average inventory level is $Q / 2$ throughout the period in question.

Due to the fact that the cost of storage per unit depends on the purchase price of this commodity, the costs of preservation are equal to $Q / 2$ and CH . Then the full variable costs of maintaining inventory reaches

$$CVT = \frac{Q \cdot C \cdot H}{2} + \frac{D \cdot L}{Q}, \quad (14.7)$$

Where: D - demand for goods from the customer (units) per unit time; L - the cost of implementing the order, UAH; H - cost for product saving per unit time as a percentage of C ; C - cost of acquisition per unit, UAH; Q - order quantity, unit.

Thus D and H are assumed homogeneous, i.e. as belonging to the same period.

This feature Q passes through the extremum at the point where its first derivative is zero

$$0 = \left(\frac{Q}{2}\right)' \cdot C \cdot H + D \cdot L \cdot \left(\frac{1}{Q}\right)', \quad (14.8)$$

Hence the optimal order quantity (party supplies), where the cost of inventory management will be minimal, is equal to

$$Q^* = \sqrt{\frac{2D \cdot L}{C \cdot H}}, \quad (14.9)$$

Inventory Management Systems

An important aspect of logistics system is to support the size of inventories at a level to ensure an uninterrupted supply of all necessary material resources under conditions of keeping economy requirements of all the material flow movement process.

Solving this problem is achieved by establishing inventory management system.

Inventory management system – a set of rules and parameters that determine the time and amount of purchase products to replenish stocks.

Such major store management systems are used in logistics:

1. An inventory management system with a fixed size of the order;
2. An inventory management system with a fixed frequency order;
3. A system with the estimated replenishment intervals to a fixed level;
4. "Minimum - maximum" system.

1. An inventory management system with a fixed order quantity

In this system the size of orders for stock replenishment is constant. Orders for delivery of products are held under conditions of reduction in stock inventory before the minimum critical level, called “point of order”.

During operation of the system supply intervals vary depending on the intensity of expenditure (consumption) of physical resources in a logistics system. In domestic practice often occurs the situation when the order size is based on some specific organizational considerations. For example, convenient transportation, or full warehouse download.

Regulating parameters of the system are: *the need for the product, optimum order size, delivery times, and possible detention of delivery.*

The value of the order is clearly fixed and it does not change under any system operating conditions.

The main calculated parameters of this system are: *insurance (warranty) stock, the maximum level of stock, most preferred stock.*

Insurance (warranty) stock allows ensuring of resource requirements in a predictable delivery delay. Reproduction warranty insurance reserve is done during these supplies through the use of other calculation parameters of this system - *the maximum level of stock.*

The maximum level determines the level of reserve stock, while reaching the following orders. Size limit level is calculated so that the order is received at the warehouse at the moment of reducing the current supply to the guarantee level.

Maximum preferred stock – is determined to control the full load area from the perspective of a minimum criterion of total costs.

Add Image illustration of the system with a fixed order size is shown in Fig. 14.10.

$$AB = VG = ED = HZ \text{ order size (const).}$$

With the achievement of the lower margin of the critical point and another order to supply the necessary material resources, the inventory level at time of booking must be sufficient for the smooth operation during the logistic cycle. This insurance stock must remain untouched.

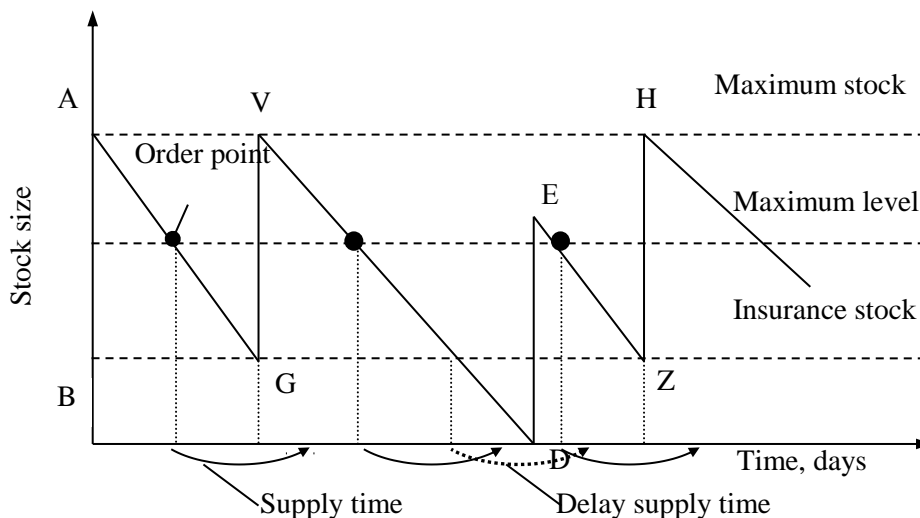


Figure 14.10 – Movement of stocks in the inventory management system with a fixed order size

In some cases, one applies a floating (one that varies) point of order. It is not fixed in advance, and the time of order application is determined by the supplier of its obligations or subject to fluctuations in demand for agricultural products.

The system with a fixed order size is sometimes called "two bunkers", as in this case it is assumed that the stock is stored like in two bunkers. From the first bunker material resources are spent from the delivery time of another party to the filing of order, and from the other bunker - in the period between filing the order and its execution, that is, until delivery.

Thus, this control system provides for the protection of enterprise formation deficit. In practice, the inventory management system with a fixed order size is used mainly in the following cases:

- large losses due to lack of supply;
- high costs on inventory;
- high value of goods which are ordered;
- high degree of uncertainty of demand;
- availability of price discounts based on ordered quantity;
- provider limitation on the minimum size of the party supplies.

Major shortcoming of this system is that it provides a continuous record of financial resources remains at the logistics system warehouse - not to miss a moment of achievement "points of order". If there is a wide range of materials (or assortment - for a commercial entity) a necessary condition of the system is the automated identification technology using bar codes.

2. The inventory management system with fixed interval of time between the orders.

In the economical literature this system is called a system of "recurrent renewal" "periodic updating". The orders are made in definite time, and there are equal intervals between these orders, for example, once a month, once a week, once every two weeks, etc. A period between two orders for manufacturing or purchase is fixed, but a size of an order is variable. One can determine the interval between the orders taking into consideration an optimal size of an order. One can calculate the time between the orders by formula:

$$I = N \cdot S / Q_{opt}, \quad (14.10)$$

Where: N – is a number of working days in one year, days; S – a demand of an ordered product, pcs.; Q_{opt} - is an optimal size of an order, pcs.

The time calculated may be adjusted depending on the expert's assessments. For example, when calculated timing is four days, one can use five days, to make an order once a week.

In a system with a fixed interval of time between the orders **a size of an order** can be calculated by formula:

$$SO = GEO - CO + EC, \quad (14.11)$$

Where: SO - a size of an order, pcs.; GEO - the greatest eligible order, pcs.; CO - a current order, pcs.; EC - expected consumption for one hour of delivery, pcs.

The graphic illustration of functioning of the system with a fixed interval of time between the orders is on Fig. 14.11.

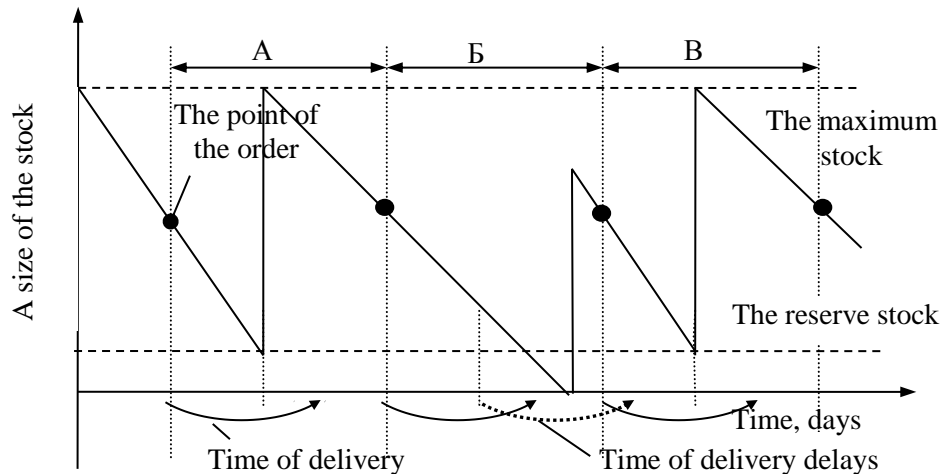


Figure 14.11 – The stock turnover in the inventory management system with fixed interval of time between the orders.

The advantage of this system consists in absence of need to keep record of supply in the storehouse of the logistic system. The necessity to make an order of a small amount of material resources is the disadvantage. In case of the intensive material consumption (for example, because of demand growth of final products) the danger arises that supply will be used before the time of new order, as a result there is stock out.

Inventory management system with fixed interval of time between the orders is used in such cases:

- the size of the order can vary according to the terms of supply;
- the cost of the ordering and delivering is rather small;
- losses because of a possible stock out are relatively small.

In practice according to this system one can order one item out of many goods of the same supplier, those goods of constant demand and those of small value, etc.

Inventory management systems viewed earlier are based on fixing of one out of two parameters - a size of an order or the interval of time between the orders. When there are no deviations from planned performance and there is even intake of provisions, for which most systems are made, this approach is entirely sufficient.

Though, in practice more difficult situations occur more often. Especially when there are great fluctuations of demand the main inventory management systems cannot provide uninterrupted supplies without expansion of the stock size. The main inventory management systems become ineffective when there are regular disruptions in supply and consumption. For such cases other inventory management systems are created, they will be considered in the following passages.

3. The system with fixed replenishment intervals and levels.

In this system the input parameter is interval of time between the orders. Unlike the main system it is created to function when there are great fluctuations of demand. To prevent the excessive expansion of the stock size in the in storage or any other deficit the orders are made within the set time points and when the limit level of a stock is reached. This system contains a part of the system with fixed interval of time between the orders (fixed interval of time between the orders) and a part of system with fixed size of an order (monitoring of the limit level of a stock, i. e. “the point of the order”).

Thereby the level of stock is control in both directions. In this case, if the size of stock reaches the minimal level before the time for a new order, an extra order is made. In other time this system functions as a system with a fixed period of order.

The peculiarity of this system is that there are two types of orders: planned and extra order. The planned orders are made in certain intervals of time. The extra orders are also possible when the limit level of a stock in the storehouse is reached. It is obvious that the necessity of the extra orders can be only when the time of consumption is different from planned.

As in the system with fixed interval of time between the orders the calculation of the size of an order is based on the expected consumption level till the order is delivered to the stock of the company.

The advantage of this system consists in excluding lack of material resources for the system. Though there are additional expenses for organizing control of the stock size.

4. The “minimum - maximum” system

As in the inventory management system with fixed interval of time between the orders, here the fixed interval of time between the orders is used. The “minimum - maximum” system is oriented on a situation when the expenses for stock accounting and the expenses for making-out up of an order are so big that they can be compared with losses from an inventory shortage. That’s why in this system the orders are not made within fixed intervals of time, but only when the amount of inventory is equal or less than a minimal level. In case of delivery of the order its size is to be calculated so that the supply of inventory will be filled up to the maximum level. So this system works only with two levels of supply – minimal and maximum, the name of the system is connected with this.

14.11. Transport logistics and organization of transportation at the enterprises

A transportation is an area of material production that transports people and cargo.

The structure of social production refers to the manufacturing sphere of material services. The costs of transportation makeup to 50% of the total cost of logistics.

By purpose there are two groups of transport: public transport and transport of common use.

A public transport is a branch of the national economy that meets the needs of all industries and population in the carriage of goods and people.

Public transport services to the sphere of circulation and people. The concept of public transportation include: railway, water (sea and river), road, air, pipelines transportation.

Transportation of common use covers the internal transport and vehicles of all kinds, belonging to non-transport agencies.

The organization of cargo common use transportation is the subject matter of internal logistics. Solving the complex of problems associated with the organization of cargo movements by public transport is the subject matter of transport logistics.

The main tasks of logistics can be defined as follows:

- the choice of kind of vehicles;
- the choice of type of vehicle;
- the joint planning of the transport process with the storage and production;
- the joint planning of transport processes on various vehicles;
- providing technological unity of transport and storage process;
- determination of the rational delivery routes.

Each of the types of transport has specific characteristics in terms of logistics management, the advantages and disadvantages that determine its possible use in the logistical system.

Six main factors that influence the choice of transport are distinguished:

- the time of delivery;
- the frequency of cargo shipments;
- the reliability of the timetable for delivery;
- the ability to transport various cargoes;
- the ability to deliver cargo to any destination in the territory;
- the cost of transportation.

Consumers are buying transportation services, reimburse those expenses in the form of tariffs and freight rates, which are at the same time monetary expression of the value of the transport of goods (services). The system of transport rates depends on the type of transport and the way of transportation.

Transportation rates are a form of prices for transportation.

Transportation rates include:

1. A freight charge.
2. Fees for additional operations related to cargo transportation.
3. The fees and charges calculation rules.
4. The systems of rates for different types of transport have their own features.

Material and technical base of transport combines: vehicles (cars, locomotives, marine, motor vehicles), equipment and facilities (stations, depots, ports, etc.), and automobile maintenance, traffic management equipment, automation, and telemechanics communication.

The organization work of internal transport

Transportation facilities are a set of the plant and workshop units that move people and of cargo between different production areas, shops, workplaces and outside the enterprise.

The main purpose of the transport facilities is well-timed movement of the cargo and people in the definite route with the lowest costs of transportation and operations for loading and unloading.

Composition and structure of the enterprise transport facilities depend on these factors:

- the features of the products manufactured by the enterprise;
- the enterprise size and scale of production;
- the industry classification of establishment;
- the level of automation and mechanization of the operating process;
- the level of cooperation with transport organizations.

Transportation facilities typically include:

- 1) a transportation department;
- 2) a transport department or departments (department of motor transport, railway transport department, etc.);
- 3) a repair shop or shops.

The transport department usually subdivided into:

- 1) bureau of strategic planning;
- 2) the bureau of technical standardization and organization of transportation;
- 3) design and technology bureau;
- 4) dispatch office;
- 5) repair bureau.

The vehicles belonging to the technical means are used to move cargo in space.

The classification of the vehicles:

- 1) by the purpose of transportation: external; interdepartmental; internal;

- 2) by operating principle: interrupted action, continuous action;
- 3) the direction of cargo transfer: horizontal (conveyers), vertical (elevators), mixed (cranes), sloping (cable way);
- 4) the types of vehicles: automobile, railway, pipeline, aviation;
- 5) the level of mechanization (automation): automated, mechanized, hand;
- 6) depending on possible relocation of the vehicle there are two groups of vehicles: stationary vehicles or mobile means of transportation.

Calculation of the number of vehicles

The need of vehicles is determined depending on the freight traffic and general freight ton-miles.

The freight traffic is the number of goods that are moved in a given direction.

The barter is the amount of all freight traffics that are moved by a manufacturing transport per unit time.

To determine the total barter of the company the articulation statement is to be made.

The articulation statement has a form of a table, in the rows of which the senders of the cargo are indicated and in columns – the recipients, moreover departments of the enterprise recorded in the columns in the order in which they are placed in rows. At the junction of identical units put an "X" - themselves they don't send and receive their goods. Then the corresponding values of the freight traffic recorded in the cells.

The articulation statement is used as a basis for creating a scheme of the freight traffic.

The freight scheme is a graphic representation of the articulation statement data on the general plan of the enterprise. When creating the scheme one should take into account that the thickness of the arrows should be proportional to the volume of traffic.

The scheme of the freight traffic is used for management of the freight traffic, roadway design and optimization of transport.

The information which is necessary to select the type and calculate the required number of vehicles:

- 1) category, type, weight, dimensions and configuration of the cargo;
- 2) the information about the route (distance, road conditions, traffic intensity);
- 3) the data about the amount and mode of transportation;
- 4) the information describing the vehicles and devices used for loading and unloading;
- 5) transportation tariffs.

The selection and calculation of vehicles is organized in two stages. At the first stage the selection of the kind and the type of the vehicle is performed and devices used for loading and unloading. The main criteria for selection are the time characteristics of traffic and quality of transport services at minimum cost. At the second stage the number of vehicles is calculated.

The calculation of vehicles of interrupted action is made in the following order based on considering of the daily barter:

$$N = \frac{Q_{\text{доо}}}{q_{\text{доо}}}, \quad (14.12)$$

where $Q_{\text{доо}}$ – is the daily barter while transporting this type of cargo, tons / day;

$q_{\text{доо}}$ – daily productivity of the vehicle, tons / day.

The daily barter while transporting this type of cargo can be calculated by formula

$$Q_{\text{дооб}} = \frac{Q_p}{D} \cdot K_n, \quad (14.13)$$

where Q_p – annual (quarterly) barter of each denomination of goods, tons / year;

D – number of working days a year (quarter); K_n – coefficient of transportation irregularity for the whole plant.

The coefficient of irregularity in whole enterprise transportation can be calculated by formula

$$K_n = \frac{Q_{\text{дооб.макс}}}{Q_{\text{дооб.сред}}}, \quad (14.14)$$

where $Q_{\text{дооб.макс}}$ – maximum daily barter of the whole plant, t / day; $Q_{\text{дооб.сред}}$ – average daily barter of the whole enterprise, t / day.

The average daily barter of the whole enterprise can be calculated by formula

$$Q_{\text{дооб.сред}} = \frac{Q_{\text{кв}}}{D}, \quad (14.15)$$

where $Q_{\text{кв}}$ – quarterly (annual) barter, tons / year; D – number of working days a year (quarter).

The daily performance of the vehicle can be calculated by formula

$$q_{\text{дооб}} = q_u \cdot m_u, \quad (14.16)$$

where q_u – trip (cycle) performance of the vehicle, m / cycle; m_u – number of transport cycles per day, cycle / day.

Trip (cycle) performance of the vehicle can be calculated by formula

$$q_u = q_n \cdot K_{\text{эп}}, \quad (14.17)$$

where q_n – nominal load of the vehicle, t; $K_{\text{эп}}$ – load usage rate.

The number of transport cycles per day can be calculated by formula

$$m_u = \frac{F_{\text{д.в.}}}{T_{\text{у.в.}}}, \quad (14.18)$$

where $F_{\text{д.в.}}$ – daily fund of operating time of the vehicle, min.; $T_{\text{у.в.}}$ – the travel time (transport cycle), min.

The travel time (transport cycle) can be calculated by formula

$$T_{\text{у.в.}} = T_{\text{нп.}} + T_n + T_p, \quad (14.19)$$

where T_{np} -run time with the load and without load, min.; T_u - the loading time, min.; T_p - the unloading time, min.

The management of in-plant transportation

The management of in-plant transportation includes:

- selection of the transport system;
- fulfillment of preparatory works;
- management of transport and lifting equipment.

Such systems of transportation management are distinguished:

- at the standard schedule (for a stable and large freight traffic);
- ordered (occasional need of transport).

The preparatory works in the transport system at the standard schedule include:

- the choice of the most reasonable type of fixed-route transportation (pendulum, circular, free, etc.);
- creating a schedule for vehicles;
- determine the order of loading and unloading;
- the technical equipment for loading and unloading.

Driving directions are worked out on basis of a firm schedule.

The traffic route is a way of the vehicle movement while transporting.

The routes are divided into the pendulum and circular.

Pendulum are the routes, where the way of the vehicle is repeated between two cargo-carrying stations many times.

Circular route is movement of the vehicle in a closed circle, which join several recipients or suppliers.

Vehicles attached to the fixed route, and this ensures their maximum and even loading. On the basis of designed routes transportation schedules are worked out. There the arrival time and the time loading and unloading are indicated. The schedules are designed for each day.

14.12. Warehouse logistics

Moving the material flow in supply chain is impossible without a concentration of the required number of stocks (inputs, finished goods, etc.) in certain places, for storing of which various warehouses are used.

Modern **warehouses** are complex technical systems, consisting of buildings, structures, techniques that are intended for adoption, placement, storage, preparation for consumption and giving consumers logistical supplies, objects of unfinished production, finished production, and goods.

Warehouses are one of the most important elements of logistics systems. The objective necessity of specially equipped places for keeping inventories exists at all stages of material flow, from the initial and to the final consumer. This explains the large number of different types of warehouses, which can be classified by different criteria.

The classification of warehouses:

1. By the size of useful storage space, warehouse size, capacity: small (up to 5 thousand square meters; 30 thousand cubic meters; to 1 thousand tons), medium (5 to 10 thousand square meters; 30 to 60 thousand cubic meters; from 1 to 6 tons) and large (over 10 thousand square meters; and over 60 thousand cubic meters, more than 6 thousand tons).

2. By structural features: closed (placed in separate rooms); semiclosed (sheds) and open (grounds).
3. By the nature of the functions performed: material (vendor) warehouses; internal (interplant and intradepartmental); marketing; sorting and distributing, transit and transshipment, storage.
4. By ownership: state, collective, private, joint.
5. By the form of use: personal use; shared; public.
6. By purpose of load: storage for products of industrial supplies, warehouses for consumer goods.
7. By the degree of materials handling mechanization (automation): not mechanized, mechanized, fully-mechanized, automated, automatic.
8. By the possibility to deliver and to export goods: stationary or long shore; close to railway; remote (intercity).
9. The nature and disposition of values kept in stock: universal, specialized, highly specialized, combined, unspecialized; mixed storage.

The main functions of the warehouses are the following:

1. Conversion of the range of industrial goods into the consumer range according to demand.
2. Reception, warehousing and storage of valuables.
3. Collecting and transportation. To reduce transport costs warehouse may perform the function of collecting small lots for several customers till vehicle is fully loaded.
4. Performing of different services: preparation of goods for sale (packaging products, filling containers, unpacking, repacking, etc.); the control after the operation of devices and equipment, installation, providing with a marketable condition, providing transport and forwarding and more.

Storage equipment consists of the following components:

- support equipment for loading and unloading;
- intra-depot vehicles;
- shelves, racks, boxes and so on.

Calculation of warehouse area

To determine the area initial data is the range of properties and amount of material values that should be preserved.

Calculation of the area includes the following procedures:

- definition of the usable area (the area in which goods will be stored);
- operational areas which include receiving and sorting, vacation, weighing platforms, walkways, passages, etc.;
- constructive area in which located partitions, columns, staircases, etc.

The calculation of the storage area can be made by two methods: the method of loading or accurate method.

The method of loading is used to calculate the area of universal warehouses or at the first stage of warehouse design.

The calculation of the storage area by the method of loading can be calculated by formula

$$S_{\text{заг.}} = \frac{Z_{\text{max}} \cdot K_{\text{н.}}}{q_{\text{cp}} \cdot K_{\text{вук.}}}, \quad (14.20)$$

where $S_{\text{заг.}}$ – the whole warehouse area, m^2 ; Z_{max} – maximum rate of storage of the i -load, t ; $K_{\text{н}}$ – the coefficient of goods income irregularity to the warehouse; q_{cp} – the average load on the of the area of 1m , t/m^2 ; $K_{\text{еук.}}$ – the coefficient of the warehouse area usage.

The coefficient of goods income irregularity to the warehouse can be calculated by formula

$$K_{\text{н}} = \frac{Q_{\text{доб.макс}}}{Q_{\text{доб.сред}}}, \quad (14.21)$$

where $Q_{\text{доб.макс}}$ – maximum daily volume of load coming to the warehouse, tons / day ; $Q_{\text{доб.сред}}$ – average daily volume of load coming to the warehouse, tons / day .

The maximum rate of storage of goods in stock can be calculated by formula:

$$Z_{\text{max}} = \sum_{i=1}^n \frac{Q_{\text{pi}}}{360} \cdot Z'_{\text{max } i}, \quad (14.22)$$

where Q_{pi} – annual amount of load received in the warehouse, $\text{tons} / \text{year}$; $Z'_{\text{max } i}$ – maximum rate of supply of goods, days ; n – the number of items of goods that arrives at the warehouse.

The accurate method used in the detailed designing of warehouse facilities. Accurate method calculating requires detailed descriptions of the materials to be stored in the warehouse. In accordance with the accurate method the area calculating is carried out in the following order:

- 1) by catalog taking into account the characteristics of goods the warehouse equipment is selected;
- 2) the need of equipment is determined;
- 3) the useful area of the warehouse is determined; it's based on the area, which covers equipment;
- 4) then operational and structural areas are calculated.

Packaging and packing while warehousing goods

The package - a special kind of industrial products which is designed for stacking and packing of various goods. In the cargo container for transport and transport organizations are stored during transport and storage in warehouses.

The main purpose of packaging:

- 1) prevent damage to the mechanical action (strikes, earthquake, war), contamination and spoilage of goods from the effects of rainfall, temperature, i. e. the preservation of physical and chemical properties of cargoes and their number while moving and storage;
- 2) create proper conditions for performance handling and transport operations for all modes of transport;
- 3) storage facilities at the packing and preservation of goods in warehouses;
- 4) better use of storage volumes of space, carrying vehicles and increase their productivity;
- 5) facilitation of storage conditions of workers.

The packaging is a tool or set of tools that protect products from damage, loss, and the environment - from pollution.

Packaging promotes rational organization of the storage, sale and transportation of products. In addition to the functional purpose of packing, there is another side, much more acceptable to the buyer, and which he sees as a sign of the brand. Packaging should support the market position of market brand. So the shape, size, colour, design, font, ecology and others have their meaning.

In practice, different types of packaging are used. They can be divided into three main groups:

- a) the outer packaging;
- b) domestic (consumer) or initial;
- c) shop (current) packaging.

Outer packaging is intended for transport or storage in the process of moving goods from producer to consumer. It includes most types of wood, metal, plastic and cardboard boxes, barrels, drums, bottles and more.

Inside, the so-called consumer, container or packaging is moving from commodities placed in it in full ownership of the consumer. These types of packaging include various paper wrappers, cartons, boxes, cans, bottles and others. The basis of allocation of container on the outside and the inside is such economic indicators as the transfer value packaging manufactured product. The cost of inner containers with product placed in it goes to the cost of production units.

Guild packaging used to transport goods to jobs, delivery and storage of raw materials, semi-finished and finished products. As a shop package solid wood packaging is used and trellised boxes, metal and plastic crates, pallets and cardboard boxes.

14.13. Information support of logistic process

Logistics system on the macro-and micro level divides on a number of structures that can be represented as horizontal subsystems that provide the organization of material flow: the enterprise - intermediary structures - the consumer; procurement - production - sales. Within these subsystems are structural elements of a functional nature - warehousing, transportation, manufacturing, services, and information. Some structural elements are combined using the logistics system with common goals and objectives. Flows of information are binding "threads" that are strung all elements of the logistics system.

Information flow - ordered set of messages circulating in a logistics system, between the logistics system and the external environment, which is necessary to control the streaming process. There are different forms (language, paper or magnetic media, etc.).

Information logistics organizes the flow of information that accompanies the material flow, and is the essential element for the company, which connects the supply, production and sales.

Note that the item "information" in the detailed consideration itself unfolds in a complex system consisting of separate subsystems.

Information logistics system, like any other system, must have some set of integrated features and consist of smoothly related items.

Information logistics systems consist of two subsystems: the functional and software.

Functional subsystem is connected with the solution of functional tasks: inventory management, planning, and transportation management and so on.

Support subsystem, in turn, contains the following elements: technical, information and software.

Logistics information systems must ensure the comprehensive integration of all elements of material flow management, operational and secure their cooperation.

Logistics information systems are divided into three groups:

- plan;
- optional(or dispatch);
- the executive (or operational).

These groups differ in both their functional and software subsystems. These functional subsystems are different in composition tasks. Support subsystem may differ in all their elements, i.e. technical, information and mathematical software.

The planned information systems. These systems are established at the administrative level of management and are used to making long-term strategic decisions. Among these tasks can be:

- Creation and optimization of certain parts of supply chain;
- Management (general) reserves;
- Planning logistics;
- Management of reserves and other tasks.

Optional information systems. These systems are created on a separate level of control of unit (warehouse or shop) and serve to ensure the smooth work of logistics systems. Here the following tasks may be decided:

- detailed inventory (stockpiles)
- ordering of transportation;
- selection of goods on order and their acquisition, control of cargo being sent, and other tasks.

Executive information systems. They are created at the administrative or operational control.

In planning of the information systems mostly the standard software is used.

In the optional information system the chance to adapt the standard software package is lower. This is a number of reasons for this, such as:

- the production process in the business is historically significant and difficult to change in standardization;
- structure of data varies greatly in different users.
- In implementing information systems at the operational level of use is usually individual software.

Information logistics systems must be mutually integrated through vertical and horizontal integration.

Vertical integration is providing links between planned, dispositive and executive systems.

Horizontal integration is providing links between different systems and tasks in the purview executive system using horizontal flow of information.

Benefits of integrated information systems:

- increasing the speed of information exchange;
- reduced number of errors in accounting;
- decreases the amount of "paperwork" to be done;
- combination of previously disparate information blocks.

Information infrastructure

New challenges are faced by organizers and production managers in the implementation of the logistic principles. They encourage them to create an information infrastructure that enables you to collect, process and transform information based on specific needs. The successful operation of the process involves the identification and standardization of data sources, processing and transmission. This can be achieved through the creation of a computer network.

The information system should be integrated and cover all production processes, distribution and satisfy consumer demand. According to the results of the analysis of the structure and geography of material (product) and information flows the multilevel system is built, thus alternative control is provided - *decentralized, centralized, combined*. At the top level management a central computer is placed, which solves the strategic objectives, intermediate level - ACS

(automated control system) of the enterprise (ACSE). At the lower level function ASC (or modules ACS) technology manufacturing processes (ACSE), warehouse complexes, railway stations and transport nodes. During operation of the system information flows accompany material. Both streams should be managed efficiently in real time.

The information support of logistics requires appropriate software, by which the whole logistics system, starting from the level of subsystems and till the company in general, would work as a unit.

At the construction of logistics information systems based on computers these principles need to be followed:

1. The principle of hardware and software modules. By hardware modules one should understand unified functional unit of electronic equipment, which is designed as an independent product. The software modules can be considered as unified, to some extent independent, software element, which performs a specific function in the software.

Following such principle the use of software and hardware modules allows: to ensure compatibility of computer equipment and software at different levels of government to improve the operational efficiency of logistics information systems to lower their costs, speed up their construction.

2. The principle of phased creation and system development.
3. The principle of clearly set places for the junctions.

At the point of junction material and information flows go beyond the powers and responsibilities of certain divisions or beyond the powers of independent organizations.

4. The principle of flexibility because of the specific requirements of particular application.
5. The principle of acceptability for the user in a dialogue "man - machine".

It should be noticed that the information infrastructure that is formed on the basis of modern, fast computers and appropriate software, converts the information from the secondary (auxiliary) factors into independent productive force. It is capable to increase productivity and minimize production costs in a short term.

Questions for self-check:

1. What is logistics? What are the functions of logistics?
2. Name the two reasons for the formation of logistics.
3. Let the characteristics of logistics and its main provisions.
4. The logistics system. Types of the logistics systems.
5. Steps to the logistics planning.
6. Commercial relations, the logistic service, types of logistics services.
7. Objectives, tasks, functions of procurement logistics.
8. What is the production logistics?
9. Goals, objectives and functions of the marketing logistics. What is the logistics of mediation?
10. Stock, functions of stocks. Types of the manufacturing inventory.
11. The inventory management system with fixed size of an order. The inventory management system with fixed interval of time between the orders.
12. Advantages and disadvantages of the basic systems of inventory management.
13. Subject matter of transport logistics.
14. The classification of warehouses. Characteristics of warehouses. The warehouse area calculating methods.
15. What is packing and packaging?

16. What is the role of information in the supply and sales activities of the company?
17. The types of logistics information systems.

CHAPTER 15. MANAGERIAL DECISION MAKING METHODS

Objective: to form systematical knowledge in the branch of managerial decision making due to the examination of the functional scheme of this process, studying of uncertainty of elements in the decision, criteria for the use of methods and practical skills forming in effective decisions making using studied methods.

Subject: the process of framing and making a decision due to informal (heuristic), collective methods and quantitative methods of managerial decision making.

Content modules: the essence and decision characteristic features, the functional scheme of its approval process. Informal (heuristic) and collective (“brainstorming”, Delphi technique) methods of discussion and decision making. The Japanese (ringi) system of decision making. Advantage choice principle. Necessary statements from Mathematics, Statistics, Probability Theory, mathematical programming and econometrics. Quantitative methods of managerial decisions making (linear modeling, dynamic programming, probabilistic and statistical models, game theory, imitational models). Criteria of methods applying.

15.1. General notions of the decision making theory

Management aims to improve effectiveness of organizations. It is due to increasing of administration’s well-founded and objective decisions making ability. There are both broad and narrow concept of the decision making in the process of economy running. To wide extent the decision making is equal to the whole administration process. In a restricted sense it is a choice of the best decision from the number of alternatives. Under widened explication the decision making means their execution, control and their results implementation analysis.

The term “managerial decision” is mostly used as a well-considered intention, the need of doing something on the basis of awareness and aims forming. There are also the ways of achievement in the case of some problems emerge.

Managerial decision is a task-oriented action directive act towards the object under management based on valid data analysis which characterize a certain managerial situation, setting operation aims and contain a certain aim achievement program.

The decision is also defined both as a process and several alternatives choice act. It is also treated as a choice result. The decision as a process is executed during a certain time period through several stages (preparation, formation, approval and a decision realization). The stage of decisions making is an act choice by a person in charge according to the certain rules. The decision as a choice result is a work plan or a project variant.

The managerial decision is taken by a manager and oriented to the team under his command. The team being as a ruling object is able and obliged to execute it in a strict line with established requirements.

The managerial decision development is connected with a great amount of information needed and its analysis. On this basis the aim is formed and the best variants(alternatives) of its achievement are under review.

The managerial decision characteristic features are the following:

- The only act from a number of alternatives choice possibility (there is no choice without alternatives that leads to decisions making impossibility);
- The aim presence – aimless choice is not treated as a decision;

- The individual's making decisions willful instruments necessity. The decision is firm as a result of a struggle between ideas and motives.

The individual making a decision is the one responsible for decision making after its examination. The decision can be taken either by one person or by a group of individuals.

The manager should think about the necessity and reasonability of its approval already at the stage of the managerial decision formation.

Is it possible to reject it at all? Will the decision elaboration expenses be compatible with the expected effect? It should be taken into consideration that any managerial decision first of all should be oriented to vitally important organization aims waiting for their execution.

There are three main approaches to the problem solving:

1. Descriptive (qualitatively objective);
2. Normative (decisions making due to mathematical methods);
3. Mixed approach.

Descriptive approach is based on the psychological modeling of managerial decisions making. First of all personal features of an individual responsible for decision making are taken into account.

Normative models focus on the way the individual making decisions should treat with their approval. The decision making mathematical theory is based on the assumption that everyone who makes a decision thinks with the help of mathematical categories. That's why they try to maximize the results of enterprise economical activity (profits, for instance).

Very often today's managerial situations demand both descriptive and normative methods at once. This is a mixed approach to problems solving.

Decision making methods are divided into three groups (Fig. 15.1).

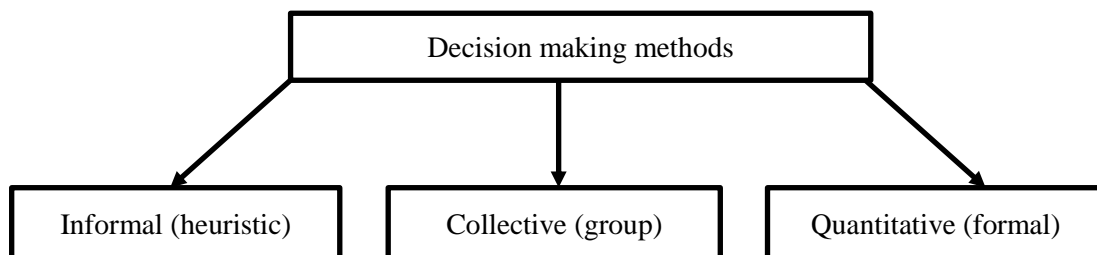


Figure 15.1 – Decision making methods classification

First of all, an individual making a decision should choose the method for this. If the chosen method is the most suitable for a problem solving, its approval will be effective. There are the following *criteria for a decision making method*:

- Effectiveness;
- Practicality;
- Economy;
- Time terms necessary for a decision making.

In such a way the managerial decision making should show positive results after a problem solving. It should be practical in its usage, comparatively cheap and the time terms should be the shortest.

There is the following decision making tasks classification. It depends on the external environment and an individual's responsible for decision making informativity value. The decisions can be taken in the conditions of:

- Certainty;
- Risk;

- Uncertainty;
- Conflict or opposition (active opponent).

In the conditions of certainty the short-term action tasks are solved. It can be the establishment of rational launching party volume and goods production.

The conditions of risk deal with such problems as the establishment of the service staff members optimal number and its rational placing. There is also a choice of means for rhythmical production development and prime cost decrease. It is dealt with break avoidance which prevent from uninterrupted production release according to the whole nomenclature.

Let's mark objective conditions with V_j , where j is the number of different objective conditions ($1 \leq j \leq m$).

C_i is the solution variants (strategies), where i is the number of variants.

The result expected with all variant combinations of the solution and objective conditions will be marked by O_{ij} .

So, the solution matrix with $j = 3$ and $i = 4$ will be as following (Fig. 15.2):

	V_1	V_2	V_3
C_1	O_{11}	O_{12}	O_{13}
C_2	O_{21}	O_{22}	O_{23}
C_3	O_{31}	O_{32}	O_{33}
C_4	O_{41}	O_{42}	O_{43}

Figure 15.2 – Solution matrix.

The solution matrix allows to choose a decision in risk conditions, as the emerge probability of certain objective conditions is taken into account.

Let P_j be the emerge probability of certain objective conditions V_j . Probabilities sum ($\sum P_j$) of possible conditions emerge is equal with 1, that can be written in the following formula (taking into account the number of possible conditions m):

$$\sum_{j=1}^m P_j = 1. \quad (15.1)$$

Since the sum of probabilities is equal with 1, the mathematical prospect has the formula:

$$M[V_j] = \sum_{j=1}^m P_j \cdot O_{ij}, \quad (15.2)$$

It means that the average results account of the solution variant under number i is equal with the products sum of every result account regarding all the examined objective conditions by appropriate probabilities of their emerge.

Tasks execution in the *uncertainty conditions* faces great difficulties, as it is impossible to make a reliable projection or to estimate the action probability in different conditions objectively. In such cases choice of solutions can be executed by a manager only, who from his viewpoint chooses the best variants.

In the *conditions of conflict* the managerial decisions are made on the game theory basis, which will be dealt with further.

By forming decision variants two factors should be taken into account. They are rationality of aims achievement and decision realization ability. To estimate this ability its execution probability is used. It can be measured by a subjective person, that makes decisions, or by the experts on the basis of different reasons analysis, that can influence this decision realization.

It is considered that when the probability is equal with 0,9, then the decision realization is practically acceptable event; when the probability is 0,1 or less the project realization is practically impossible.

The aim and alternative are some of the key definitions in the decisions making theory.

Aim is an ideal and imaginary activity result vision and the ways of its achievement due to certain means. **Alternative** is the variant of an activity, which can be chosen by an individual that makes a decision.

The aim and alternative actions are treated as exogenous quantities. The economical activity analysis should generalize the experience of manifestation and aim outset and its achievement alternatives in the practice of managerial activity according to certain managerial functions. Decision making theory provides the complexity of given problems examination from the view of managerial tasks solution general structure (managerial decision making).

During the aim analysis process one should look through its connections with a concrete managerial subject. It can be individual or collective. The aim expresses the desired final processing point of the managerial subject and its state changes. In abstract the aim is defined as the final state of managerial process change. To the addition the managerial process becomes separated from the managerial subject. In the economy running during the decision making the subject stays neutral to the managerial process. The problematic situation can't exist beyond the managerial process.

That's why it is often difficult to define whether it is dealt with the aim or with the action alternative. From the view of different subjects the same phenomenon can be estimated in different ways. The important role plays the thing, on which hierarchical structure managerial level the subject stays. For example the aim is the manufacture intensification, but the enterprise from the view of its narrow interests can have some specific goals. For their realization the manufacture intensification is one probable (and not always the most beneficial) alternative action.

The correlation between the aim and alternative is much more complicated. The same phenomenon can be estimated by the managerial subject as an aim in on the one hand and as the action alternative on the other. It depends on the task generalization level under solution.

The interrelation of these aims and alternatives visually can be described due to the "tree of goals" (Fig. 15.3).

Subgoals of the first level are the alternatives of the primary aim achievement. The subgoals of the second level are treated as the aim. "The tree of goals" can be described in such details that on the last level the alternative variants could stay, that couldn't be regarded as aims.

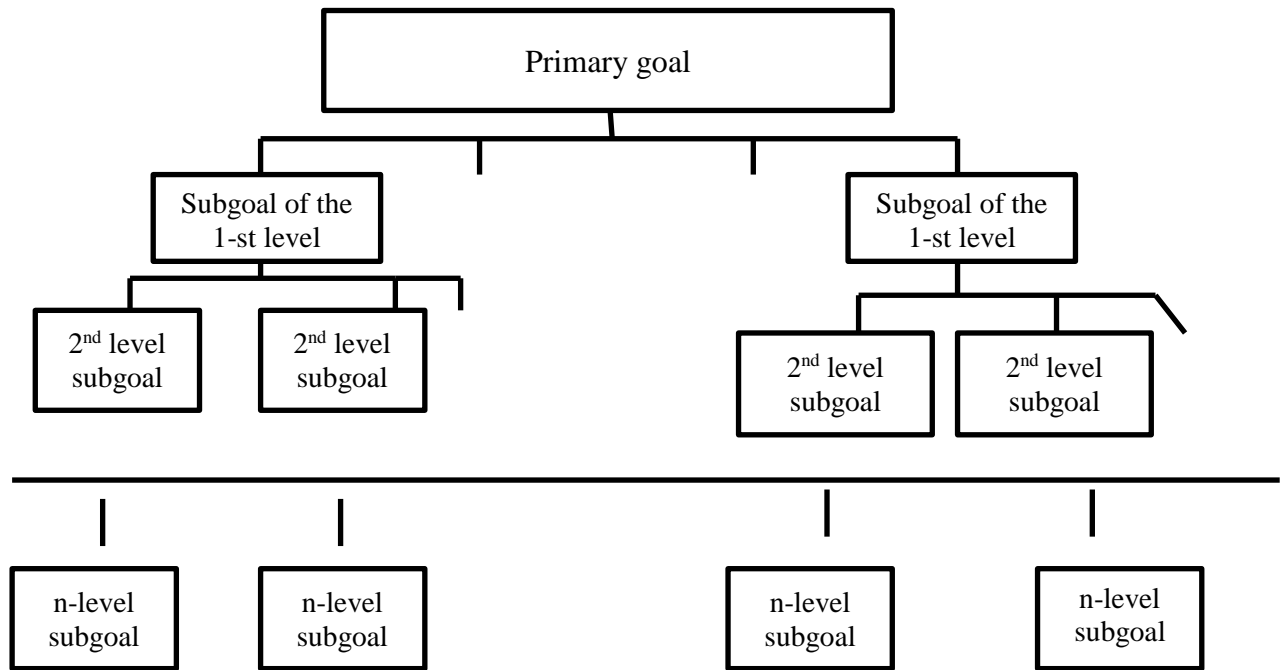


Figure 15.3 – The Tree of Goals

Alternatives are the means of aim achievement that involve the economy under subject's order, resources and activity conditions run by him.

There are the following *demands for the aim quality (primary goal)*:

- Complexity;
- Coordination;
- Reality;
- System.

The decision *complexity* means that the needed result decision should involve all the problematic situation main aspects. When this demand is not taken into consideration the approved decision often remains one-sided. Its realization leads to emerge of more complicated contradictions (sometimes even more serious than the one under consideration). For example, following the aims of economic indicators improvement and having forgotten about the social sphere development the problems appeared with the staff can be disregarded. Finally it can lead to the development growth tempo decrease. The given example also shows the necessity in the right accounting of the temporal economical activity succession. The short run success can cause some difficulties further.

The aim *coordination* means the consistency of the target system components. To achieve this coordination the following methods are applied:

1. The target system components are ranged according to their accounting order during the decision making. First of all the alternatives are compared regarding the primary goal achievement level. If the only action variant can't be outlined by the given component then equivalent components are compared according the level of the target system next component etc. For example the manufacture placement variants that satisfy ecological and social aims are compared according to the economical criteria.
2. The target system coefficients of different components importance elaboration that allow all the components to a single aim reduction. The aim inconsistency example is "the greatest achievement results with the smallest expenses". The compromise can be the greatest achievement results with some expenses, certain achievement results with the smallest expenses or the best results and expenses and results correlation etc.

The aim *reality* emphasizes its dependence on the action alternatives. When the ruling subject lacks real action alternatives for the aim achievement, this aim is a dream. If the aim realization is impossible, it can't be included into the managerial activity.

The aim *system* should provide its relation with all other managerial tasks.

The alternative of the aim achievements establishment means the action variants description for a decision making models in a certain form. The given models provide the systematic alternative processing to find the best one.

In the process of an alternative identification and limitation one should take into account the following demands:

- The mutual alternative exclusion;
- The same conditions of alternative description providing;
- The alternative totality fullness.

The demand of *mutual alternative exclusion* results from the definition of the decisions making category as the act of choice. The single choice is only possible, when the alternatives exclude one another. The mutual exclusion doesn't mean the same elements absence in different alternatives. For example, when two possible variants A_1 and A_2 exist it is possible to make four alternatives: A_1 ; A_2 ; A_1 and A_2 and *inactivity*.

The combination of elementary indivisible independent variants creates complex alternatives. They should be figured out, as the result of complex alternative realization generally is not the sum of their components results. The inactivity negative effect should sometimes exceed expenses to actions in order to raise an issue about the managerial task establishment.

In order to provide the alternative comparability, *they should be described in the same conditions* – resource, temporal, outer limits, etc. Keeping to this demand should guarantee equal “starting” conditions for each alternative and the whole results realization complex accounting.

The demand breaking of the rational fullness of the alternatives sum has both objective and subjective reasons.

One of the most important subjective reasons is the managerial subject's persuasion that a priori prefers one certain alternative. In order to protect it from all others he keeps to traditional decisions excluding all difficult and incredible ones. The alternative importance for the given task solution is impossible to understand at once and directly. That's why it is important to avoid the premature alternative sum limitations.

The main reason for demand breaking of the alternative sum fullness has the objective character. It results from the information collection and processing ability limitations from the side of the managerial subject. Defying the given abilities various aspects should be taken into account:

- Collection and information processing are connected with expenses that in a proper way should correlate with the expected improvement of the made decision;
- Certain conditions make it clear that the additional information can greatly improve the decision under approval, as the known alternatives provide the high level of aims achievement (similar situation emerges with point goals);
- New alternatives finding (processing) is the creative activity. Their result is difficult to predict (alternative sum totality in a certain meaning are unknown);

In the practice of the Ukrainian enterprises alternatives are not often elaborated. Sometimes it is a lack of time and sometimes – the absence of a wish and energy. In such situations not more than one decision is searched. The first satisfactory decision is made and brought into life. The similar means of solution is caused by short temporal terms and energy, but the results are not always the best.

Regardless the solution under approval there are there are some demands to its quality.

The managerial decision quality is the sum of decision characteristics that satisfy a certain consumer (or consumers) and provide its realization reality.

The main factors influencing the managerial decision quality are the applying to the managerial system scientific approaches and principles, modeling methods, management automatization, qualitative decision motivation etc.

In any decision making, of course, such things as intuition, thought and rationality are present in certain measures.

Taking purely *intuitive decision* one keeps to the feeling that the decision is right. There is the so called “sixth sense”. Middle managers rely on the received information and computers more.

The decisions based on a *thought* are greatly similar to intuitive ones. But still their basis is knowledge and well thought out past experience.

As the decisions are made by people, their character greatly depends on the manager’s personality who makes them appear. So, there are balanced, impulse, inert, risky and cautious decisions.

For the strategical and tactic ruling of any management system and subsystem the rational decisions are made. They are based on the economical analysis, explanation and optimization methods.

The parameters of the managerial decision quality are:

- Entropy indicator (qualitative problem ambiguity). If the problem is defined only qualitatively, without quantitative indicators, the entropy indicator approaches 0. When all the problem indicators are quantitative, the entropy indicator approaches 1;
- The investing risk level;
- The decision realization probability according to the quality, expenses and terms indicators;
- Adequacy level (or the projection accuracy level, approximation level) of the theoretical model to the actual data, on the basis of which it was elaborated;
- Scientific management approaches application to the managerial decision development;
- A person who makes decision should be provided with information characterizing the parameters of “output”, “input”, “external environment” and “the process” of a decision development system;
- The application of functional and cost analysis method, projecting, modeling and each decision economical explanation;
- Problem structuring and the “tree of goals” making;
- Providing of decision variants comparing;
- Providing of decision variety;
- Juridical ground of a decision under approval;
- Collection and information treatment, elaboration and decision realization processes automation;
- Elaboration and functioning of liability system with qualitative and effective decision;
- Decision realization mechanism presence.

The estimation of a managerial decision quality is made on the elaboration, approval and decisions realization stages.

15.2. Approval and managerial decisions classification process

The need in certain stages marking in the process of decision making and their contents greatly depend on the problem under solution character. The decisions scale under consideration can acquire the following form:

- Binary decision (two alternatives “yes” or “no” are present);
- Standard decision, which regards the small variety of alternatives;
- Multi-alternative decision (numerous but finite quantity of alternatives);
- Uninterrupted decision, where the choice is made out of infinite modes number continuously from variable controlled quantities.

Depending on the detail level and aims under achievement the decision making process can progress according to three schemes: organizational, informational and technological.

Organizational scheme contains the longest decision making stages that differ mostly in their work organization on each stage.

Informational scheme contains such decision making stages that differ in their used information character.

Technological scheme figures out similar technological operations groups dealing with the information treatment.

There is also an *analytical scheme* (Fig. 15.4) of the decision making process. It contains the stages that differ in solved analytical tasks contents.

In modern conditions the managerial decisions can be totally different in their form, measures, directions, elaboration time, approval and realization. Some decisions are approved quickly on the experience basis. Others are accepted only after the mathematical processing and explanation. Such conditions demand orderliness and classification of managerial decisions.

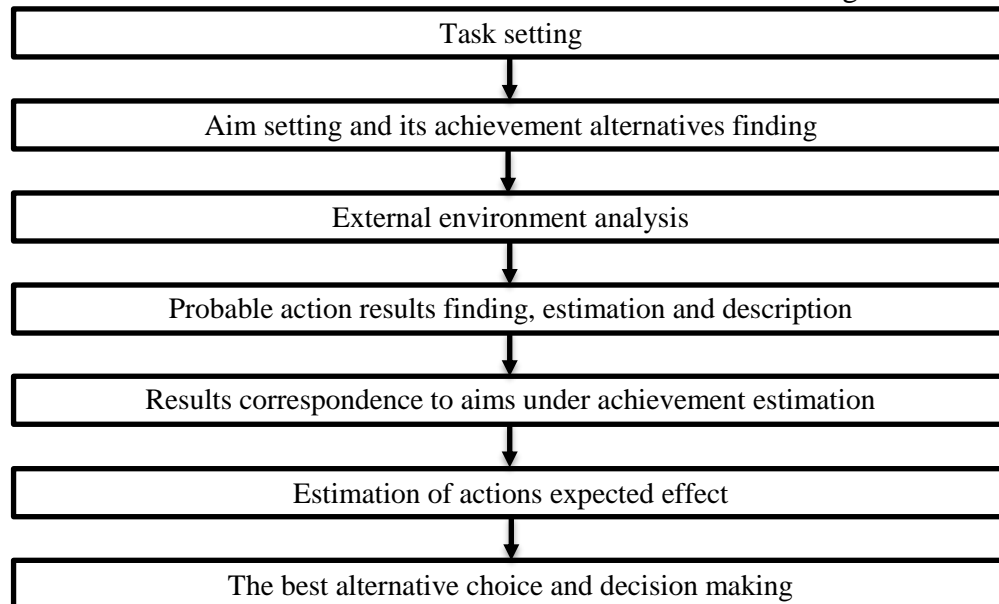


Figure 15.4 – The analytical scheme of decision making process

Decisions are classified according to:

- *The object measure* – global, local and objective;
- *The action term* – operative (approved decisions are being realized during hours, days and weeks), strategic (they are being realized during several years according to the approved strategic plan), tactic (the realization term is one year);

- *the contents* – economical, political, social etc.;
- *The expression means* – verbal, non-verbal, electronic;
- *Representation means* – a plan, an order, a program etc.;
- *The form* – textual, graphic, mathematical;
- *The goal* – commercial, non-commercial;
- *The uncertainty level* (information fullness) – the decisions approved in the conditions of certainty, risk (more possible certainty), uncertainty;
- *The repetition* – programmed (repeated many times and have worked out approval procedures) and non-programmed (the problem has to be solved for the first time);
- *The uniqueness level* – routine, non-creative, unique (creative);
- *The number of individuals solving a problem* – individual and collective (group);
- *Applied criteria type and time terms* (speed) of a task solution:
 - Automatic decisions (approved at once – question - answer);
 - Flashlight decisions (approved in several minutes);
 - Express-decisions (approved in several hours);
 - Long lasting decisions (approved in several weeks or days).

The above given classification is far from the full one. Besides, sometimes it is difficult to define the decision type.

15.3. Modeling of developing and making decisions

Any purposeful activity including the decisions elaboration and approval is connected with modeling.

Modeling is the creation of some original object image or model that in certain conditions can substitute the original itself. It represents the same characteristics interesting for an investigator. At the same time models provide obviousness, visibility, test availability, operating easiness and other advantages. It comes out that model has a target character. It reflects not the original object itself but it is formed from existing goal of totally concrete modeling object characteristics representation.

The use of models lets decisions be approved. In the process of their explanation all the factors and alternatives are taken into account. They emerge within complicated conditions of production and economical activity. That's why modeling is regarded as the most efficient managerial decisions optimization means.

Model is the object characteristics representation on the scheme or formula. It is a simplified concrete vital (managerial) situation. In other words models somehow represent real situations or circumstances.

The importance of models applying is explained by the following reasons:

- The complicatedness of the real world, productive and economical activity;
- The presence of multifactoral dependence in the process of managerial decisions solution;
- The importance of experimental testing of alternative managerial decisions;
- The reasonability of future management orientation.

The world practice has worked out of the models elaboration order:

- Task setting;
- Model formation;
- Model's reliability testing;
- Model use;

- Model renovation.

Before examination of widely used models and by today's organizations and tasks which are the most suitable to them, one should look three basic model types:

1. *Physical*. They show increasing or decreasing of an object description;
2. *Analogue*. They act as real objects, but are not similar to them;
3. *Mathematical* (symbolic). For object's characteristics symbols are used.

According to the theoretical and practical goal of modeling models generally are also divided into two types:

1. Cognitive;
2. Pragmatic.

Cognitive models are the organization form and tasks setting, the combination means of new and present tasks. So, having noticed difference between a model and reality the task of this difference removal is set. A new model is created.

Pragmatic models are the means of ruling, organization of practical activities, the means of right actions exposing. They are the means of standards and their results. Actually they are operating goals representation.

The pragmatic models are used to elaborate ways and means in reality in the case of their emerge. It is necessary to make reality close to a model. So, pragmatic models seem to play a role of a certain standard. The activity and its result are oriented towards it.

The pragmatic models examples are action plans and programs, organization charter and laws, normative basis, technological schemes of different operations, algorithms, drafts and patterns, selection parameters and technological admissions.

Like all means and methods, management science models can lead to an error. The model efficiency can be decreased because of potential drawbacks number. In most cases they are: unreliable initial assumptions, limited opportunities of necessary information acquiring, user's fears, rare use in practice, too high price.

15.4. System analysis in the decision making theory

During last years approaches have appeared, regarded as universal means of a number of problems solution. The most popular is the so-called system approach.

Nowadays the word "system" is widely used within different connections. In engineering it is spoken about the system technique. There are system analysis, projects system running, organizations system projecting etc.

As a method of managerial decisions approval the system analysis has two approaches.

The first one regards the system description with the help of formal means. It is using of different mathematic methods. On the basis of such approach the optimal decision can be found.

The second approach deals with the examination of system analysis logic. The system analysis is regarded as the methodology problem segmentation and orderliness. The problem should be solved regardless the process execution with the help of a computer and mathematic means use. Logically the system analysis can be supplemented with the system mathematic analysis. But in such a case it greatly differs from the methodology of formal and mathematic investigations.

As many high qualified specialists in the management branch think, the second approach is the most efficient.

The important managerial decision characteristic is its approving when the problem has appeared.

Problem is usually a situation characterized by such divergence between the needed and present managerial system situation, which prevents its normal functioning, development and goal achievement.

Many specialists notice the difference between the system analysis and operations examination methods. The latter one doesn't contain the elements characteristic not only to strict qualitative decisions approval methods but also intuition approach totally depending on investigator's creative skills.

It comes out that all the problems should be divided into three classes:

1. Well structured or quantitatively expressed problems. Their essential dependence is so vivid, that they can be expressed with numbers and symbols, at the end numeric assessments are got;
2. Non-structured or qualitatively expressed problems containing only the description of necessary resources, characteristic features. The quantitative dependence is unknown;
3. Weakly structured or mixed problems containing both qualitative and quantitative elements. Besides qualitative ones are not rather vivid and undefined problem characteristics dominate (Tab. 15.1).

Table 15.1

Types of problems and basic methods of their solution

Type of a problem	Problems and tasks solution methods
1. Well structured problems	Mathematic modeling methods (classical methods), chain modeling, linear, not linear and other mathematic programming types, queueing theory
2. Non-structured problems	Intuitional methods of task solution (examination, "brainstorming", jury and committee methods,), script making methods, heuristic methods.
3. Weakly structured problems (mixed problems)	System analysis, game theory, utility theory analysis, heuristic modeling (programming)

For a first type problem solution it is recommended to use the operations investigation method using the mathematic programming methods.

Non-structured problems are usually solved by heuristic methods. The idea of such methods is that a sophisticated specialist collects the maximum of the problem characteristics. With the help of a situation and logic he makes propositions about corresponding measures for their solution (as a rule there is an algorithm of a problem solution).

The third type problems are regarded by the system analysis.

Within the system analysis (like within the economic one) different indicators should be taken onto account. They are based on the account data, reports and a plan. But for the profound problem investigation the data received from different aspect of organization and its elements activity. They are technical, economic, financial and some other aspects. The psychological climate and social factors should be also regarded. That's why during system analysis data acquire not only quantitative but also qualitative features. In such a way the system analysis helps to solve a problem more profoundly. The economic analysis does not give such opportunities.

During the system analysis not only the reasons carrying negative consequences can be found. There are also the conditions creating those reasons and the measures of negative features eliminating are possible to foresee.

The system analysis is widely spread solving different tasks. They are: productive forces division among structural elements, the equipment and workers future necessity, demand for different production foreseeing.

15.5. Heuristic methods of managerial decision making

The managerial practice shows that in the process of decision making and realization a certain number of managers use informal methods. They are based on the individual analytical skills, who approves a decision. It is a number of logical means and the methods of optimal decisions choice by a manager due to alternatives theoretical comparison regarding the earlier experience. Most informal methods are based on the *manager's intuition*. Their advantage is in their operative approval. The drawback is that informal methods do not prevent from wrong (ineffective) decisions choice, as the intuition can make manager fail.

Heuristics is a number of investigation methods, methodology of tasks setting and their solution. It is a studying method by leading questions and also such methodology theory.

Heuristic programming is the tasks solution method based on the decision making experience. As to managerial tasks the heuristic programming (heuristic methods) are realized in the following way:

- Use the intuition method – the managerial task becomes easier and can come out from earlier experience which was successful in most cases;
- By the expert variant task. The managerial task is easier if the specialist proposes the supporting variant of its solution. Analogically to it there is the possibility to check the criterion efficiency change within separate parameters varying;
- By the substitution of one task to another. In such a case the model won't reflect the sense of the situation under examination, but the decision elaboration can use the chosen task solution algorithm.
- By the narrowing of the sphere under examination. The optimal variant search can be simplified if additional limitation conditions are present.

The decision approval heuristic methods are the system of rules and principles giving the most possible strategies and tactics of individual's activity. They stimulate its intuitional thinking during the solution process, the emerge of new ideas on the basis of certain tasks creative solutions that efficiently increase its effectiveness.

The managerial systems expert investigation methods are based on ideas based on the task solution informal approach. It should be understood in this way, as during the system approach within a number of practical tasks their solution can totally form the problem in such a way for all possible mathematic models for its strict or formal solution could be applied.

Using expert methods for social and technological systems analysis four groups of participants are present:

- Client – the one who sets a problem, orders and finances the management system investigation;
- Individuals making decisions. They are managers whose powers create the problem solution;
- The participants themselves whose actions will be important in a problem solution. They are also show positive and negative decision results;
- System analyst and his staff.

The expert estimation applied methods are divided into *individual* and *collective*.

Individual expert methods are based on specialists' ideas independent on one another.

The foreseeing methods are mostly used:

1. Interview;
2. Analytic expert estimations.

Interview method is the conversation between an expert and a forecaster. Before a program is elaborated the forecaster asks expert questions as to development perspectives of the object under

forecasting. Such assessment success greatly depends on the expert's ability to make conclusions according to different fundamental problems at once.

Analytical expert estimations regard the long lasting individual work of an expert in tendencies analysis, change of a state and a forecasted object development ways. This method lets an expert use all necessary information about the object under analysis. The expert gives a written account of his understanding.

The main advantages of the given methods are the maximum of individual's abilities use and the psychological limits on a separate worker pressures. Although these methods are of little use for forecasting of most general strategies because of knowledge lack about related scientific branches development.

Methods of collective expert estimations are based on the expert collective idea creation as to perspectives of the object under analysis.

Using the expert method the order scale is often used. The task is solved by the principle "worse -better", "more or less". More detailed information about how much it is better or worse is often not needed.

Pair comparison (objects are compared in pairs). Making an order scale or a so called range line experts use the pair comparison method. The Tab. 15.2 shows the example of six objects ranging with the way of pair comparison. It is the result of one expert's work who estimated objects in a certain way. The advantage of one object over another is marked by 1, the opposite situation – with 0.

Table 15.2

Ranging example by the means of pair comparison.

Object number	1	2	3	4	5	6	result
1	X	1	0	1	1	1	4
2	0	X	0	1	1	1	3
3	1	1	X	1	1	1	5
4	0	0	0	X	1	0	1
5	0	0	0	0	X	0	0
6	0	0	0	1	1	x	2

The range line (order scale) for objects with the comparison characteristics in the Tab. 15.2, will look in such a way:

$$Q_5 < Q_4 < Q_6 < Q_2 < Q_1 < Q_3. \quad (15.3)$$

If there are several experts, the result can be more accurate.

More perfect criteria can be used. For example an advantage can be defined as 1, the worse quality – with -1, and the equal quality – with 0. The range line creation mechanism is the same.

It is proved by psychologists that the pair comparison (you choose products comparing them in pairs) is the ground of any choice. Although the order scale is usually made in advance (unarranged line) and supporting points are fixed there. They are called grades.

In such a way the 20-grade earthquake and mineralogical, five grade mark system, figure skating scales appeared.

Forming the expert group it is necessary to make testing, experts estimation by one another and ideas sequence testing.

The testing helps to solve tasks by experts, the results of which are known by testing organizers. Although they are unknown to experts and hypotheses according to Fisher's testing about different experts' estimations belongings to the same estimations general number.

Self-esteem is that every expert during limited time terms answers the questions in the specially created questionnaire. Such test is provided by computers and at the end there is a final mark. Experts can estimate each other, but here the trusting conditions and common work experience are needed. The experts' ideas sequence can be estimated by the coordination coefficient quantity:

$$W = \frac{12S}{n^2(m^3 - m)}, \quad (15.4)$$

where S – sum of each object all range estimations declination squares;

n – the number of experts;

m – the number of all expertise objects;

Coordination coefficient is changed in the range of $0 < W < 1$, where 0 is the full disparity, 1 is the full agreement.

15.6. Features of development and decision making in a group.

Under the main point in the process of collaboration with the implementation of managerial decisions is to determine the range of people - the participants of the procedure. Often this is a temporary group. It includes, as a rule, managers and performers. The main criteria of such a group is competence, the ability to solve the creative tasks, constructive thinking and communication skills.

Most existing definitions of this group is descriptive, actually listing its properties, among which are the logical operator "AND" or "OR".

Such group properties are sorted out:

- 1) a limited number of members, such that each of them was able to develop their own vision of all others, and similarly was seen each of them;
- 2) a common activity with the achievement of the permanent goal, which is estimated as the goal of the group and various personal interests;
- 3) emotional relationships between members of the group, the possibility of subgroups on the basis of expressed sympathy or antipathy;
- 4) strong interdependence of people - members of the group, related sense of moral solidarity and unity even outside the common actions;
- 5) differentiation of roles among team members;
- 6) development of common cultural norms and specific culture in a group.

The following negative effects can exist during the adoption of the decision:

1. The effect of the "social facilitation": the presence of observers or their possible presence leads to such situation . Simple actions are made better, but difficult - worse. The effect of social facilitation has asymmetric character: in the presence of observers, the worsening results in the complex actions are more than improvement in the simple actions.

Conclusion:

- 1) the presentation of the observers should be very careful;
 - 2) the feasibility of such a step is determined, on the one hand, the number of employees and strong complexity of the tasks.
- 2.** The effects of "social laziness" and "division of responsibility": if the contact between personal

efforts and results is weakening, and "blur" the intensity of the responsibility of the group members and their efforts are reduced significantly and shifted on the others.

Suggestions:

- 1) the presentation of the observer;
- 2) increase the feedback, for example, information about the results of collective work;
- 3) on occasion, determine the individual part in the collective result and, conversely, the imposition of the sanctions in cases if transferring of responsibility led to negative consequences;
- 4) division of labor tasks for operations with the appointment personally responsible.

3. Social comparison theory: the basic idea of the social comparison theory (Festinger):

- people have a natural tendency to evaluate their opinions and abilities;
- evaluation is carried out by comparing the views and assessments of other people;
- the choice of comparison is carried out with those whose views and opportunities differ slightly.

The consequence of the latter idea is that in some production situations, behavior of the people is determined not so much by leadership position as the views of colleagues.

4. The effect of "conformism": another consequence of this theory is the influence of the environment on individual perception.

5. The effect of "groupthink": a well coordinated and successful work of the groups, and sufficient isolation from external influence, loyalty and conformism can lead to groupthink. And the wrong decisions will be based on a feeling of perfection and benefits of the group. The most common symptoms of groupthink:

- illusion of the invulnerability, which is accepted by almost all members of the group, leads to unnecessary optimistic assessments and unjustified risk;
- negative attitude to the rational or incredulous expressions ;
- unconditional faith in the inherent morality of the group;
- stereotyping perception of the bad advice or unreasonable advices;
- the pressure on the members of the team that do not obey the majority;
- set illusion of unanimity;
- self-censorship in the name of non-violation of the consensus;
- the random appearance of those, who filter the information that could shake the complacency.

There are methods of developing the final group decision:

1. "Consensus" - individual group decisions are made by an open discussion of individual variants.
2. "Dialectic" - the variants are not discussed just only the factors that are determined them.
3. "Dictatorship" - the discussion ends with the choice of the participant, whose opinions and ideas are accepted as group's choice.
4. "Collective" method - averaging the result, which excludes all individual impacts.

We consider the existing methods of collective decision making, including: Delphi method, Japanese (ring) decision-making system, the method of discussion, morphological analysis method and the method of the issues and the method of analogies, morphological analysis, random impulse method "635", a method of moderations, method of "brainstorming" and its modifications.

Delphi method is based on the principle that forecasts (or decisions) from a structured group of individuals are more accurate than those from unstructured groups. Unlike the traditional approach to achieving consistency of expert opinions in an open discussion, Delphi method

involves the complete rejection of collective discussions. This is done to reduce the influence of psychological factors such as joining the most authoritative expert opinions, unwillingness to abandon publicly expressed views of the majority. The specific measures are used to eliminate the influence on the results of experts who have the gift of persuading others.

Method Delphi is long enough and has the following stages:

- 1) each participant shall submit their proposals anonymously in the form of answers to the questions;
- 2) a table summary of responses convey to all participants;
- 3) participants agree with the chosen solution, offering new ideas or looking for ways to a compromise;
- 4) these steps are repeated while members do not come to a common solution.

In this method direct debate replaced by carefully designed program of sequential individual interviews which is held usually in the form of a questionnaire. The responses of the experts are summarized with new additional information. Then the responses are returned in their order, after which they refine their initial answers. This procedure is repeated several times to achieve acceptable convergence of the expressed opinions. Clearly, the Delphi method is cumbersome and too slow for the greater usage.

Japanese (ringi) system of decision making. In the traditional Japanese methods of decision-making the main is a system of "ringi". The term "ringi" has no adequate translation into Ukrainian. It consists of two hieroglyphs - "rin" (to ask in the subordinate) and "gi" (to confer, to discuss, to ponder). Literally, this term can translate as "to consent a decision with the help of a questioning (without calling of a meeting).

The Japanese organization can distinguish three main levels of management:

1. "Keyey" (leadership) - the highest level of strategic management. It includes the post of chairman, board members, president, vice presidents and heads of central services. At this level the strategic objectives and policies are determined.
2. "Kanri" (administration) - the average tactical level. It includes positions of the managers and heads of departments.
3. "Ippan" (rank and file) - the operational management level. This level includes positions of line managers: team leaders, heads of change, sites, and foremen and team leaders.

The process of decision-making in the system "ringi" is in progress that way. Management of the company defines the problem and transfers it to the detailed analysis in the sector or section. A special educated person works on a document ("ringise") and proposes suggestions and conclusions. A prepared "ringise" is sent to the persons who are interested in it. They became acquainted with it, set a personal stamp and return it to the performer. The last action is to present an adapted and stamped document to the management, after which it comes into force.

At first sight, this procedure is usual in comparison with the companies in the U.S. and Europe. However, the procedure "ringi" reflects the specific style of Japanese management. The administration indicates only the problem and the performers develop it and present proposals. In the process of "ringi" are clearly defined principles of " worker's governance ", "consensus" and "a team exercises".

Method of discussion. This method is the preparation to the decisions by a wide range of the participants, represent them their views and interests, their coordination and integration. This is a common search for the optimal solutions, that are based on the results of practice and its scientific interpretation.

In this discussion, the participants can represent clearly their positions, compare different

approaches, discuss about pros and cons. The collaboration of participants, the usage of the appropriate techniques and methods are the main parts of this kind of management.

Morphological analysis method and the method of the issues is the decomposition of initial problem into components or emerging problems, and then to divide them onto alternative ways of implementation. Then all the possible combinations are determined. A draft is created for each of them or only for the most perspective variants.

Method of analogies. The idea consists on the selection of the issue and try to solve it using ideas from other spheres of life and science. At the proper time, the method used so successfully that later was born the science - synectics. One of the sphere of this science, which has borrowed technical ideas in biology, called bionics.

It's necessarily to do for using the method of analogies:

- to find out the main problem;
- to formalize it clearly for the experts from the different fields;
- to describe the goals of the future decisions and the objective limitations;
- to distinguish the sphere of life or science, which may be similar in their content to the decisions;
- to sort out a team of the experts from a certain sphere;
- to organize a "brainstorming";
- to interpret the introduced variants;
- to choose the most effective options.

Morphological analysis. This approach is associated with structural relationships between objects, phenomena and concepts. One of its fundamental aspects - the universality, using the knowledge about the object, as a result of reliance on the completeness of knowledge. The necessary requirement for morphological analysis is the complete absence of any initial pre-judgments. The morphologic approach is a streamlined way to review subjects and to obtain systematic information from all possible solutions of this problem.

Random impulse. Our mental apparatus functions as a storage system. The attention is characterized by limitedness and associativity. So, while receiving two signal to the brain simultaneously, the special logical chain between them should be installed with the help of the created conditions, which could change significantly the perception of the signals.

The basic techniques for the accelerated this process:

- the association of large numbers of people;
- visiting places where a lot of random things (shops, exhibitions, libraries, etc.);
- conscious association previously unrelated ideas, for example with the help of using random words tips.

Method "635". The thing is six people should express three ideas in five minutes for the given question. Then the papers with their views are transmitted according to the clockwise. Over the next five minutes, each participant must receive all proposals and scan them. Every participant should study all ideas.

After half an hour, at most, 18 developed proposals are ready. The following half an hour are for discussion, additions and selection the best options.

Method of moderations. Participants fill out three cards with a brief description of existing problems (anonymously).

Moderator shuffles the received cards and notifies their content. Then he should refer them to the specific groups. If the views of participants are differ, the final decision should accept the author of this card. As a result, all problems are divided into groups (clusters).

The participants discuss each of the clusters. There are possible options: exclusion (inclusion) any problems, fragmentation it into several smaller groups or, conversely, their amalgamation.

The general names of the clusters are developed. Their relative importance is determined.

The method of brainstorming and its modifications. The principles of 'brainstorming':

1. A clear formulation of goals and / or objectives and constraints;
2. To provide freedom for participants:
 - 1) to give permission to speak (to promote shy people, to restrain the most active and reputable);
 - 2) full freedom of thought; to encourage 'crazy' ideas, analogies (literary, musical, biological, etc.).
3. The accurate formation of the participants:
 - 1) for their number;
 - 2) for their specializations, which cover the fully required area;
 - 3) for their psychological support (lack of the malignant conflicts or obvious leaders);
 - 4) for their qualifications (the high level);
 - 5) to present the clown sometimes;
 - 6) the hierarchal discussion;
 - 7) the significant role of the 'leader' and the democratic leadership style;
 - 8) a creative, purposeful and conflict-free atmosphere;
 - 9) the ability to 'detect' some proposals and direct the discussion (the Greek method).

Conclusion:

1. The non - formalized method.
2. The difficult and conflict method.
3. The results depend on the preparation and conduct.

The method of the individual brainstorming. All roles (facilitator, holder, generator and evaluator of ideas) is performed by one person. Treatment time - 3-10 minutes. It is committed by pen, or PC (effectively) - recorder. Evaluation of the ideas must be delayed. A warm up helps. Drawback - the lack of synergies. The advantage - efficiency and economy in public.

The written "brainstorm". It's used primarily in the case of geographic separation of participants, therefore, it is possible to hire the top - class professionals. The weaknesses - the lack of synergies, the duration of the process.

The method of the direct brainstorming. Unlike the classical method of "brainstorming", the process of formulating the problem (objectives, constraints, etc.) is also using the method of brainstorming, and, moreover, with those participants.

The method of the mass brainstorming. It's used for solving the global problems. A competent team is formed. The original task is divided into parts by this team. Then, the discussions are held for every unit, using the method of brainstorming. The next stage - to collect the team leaders and discuss all ideas.

The method of the double (pair) "brainstorming". It's used for the critical ideas. The stages: the direct "brainstorming", the discussions, the continuation to present the ideas.

The reverse brainstorming. It's used in the realization of the projects that consists of the many stages (elements). In case, of the failure of one segment, it's possible the failure of the whole process. So the most important is to ensure the accuracy of every part of the process. The purpose of "brainstorming" - the maximally detection of all drawbacks. The stages: to form the potential and possible shortcomings in the future by brainstorming; their ranking.

The method of the ship council. Discussions are conducted according to the hierarchy. The disadvantages: when the participants have the idea during the discussion, after they used their right to speak, it can not be expressed.

The method of the conference - idea. This is a variant of the method of "brainstorming", but in a more casual setting such as the use of the "round table".

The relative precision of the group versus in comparison with the individual solutions for creative tasks depends on the complexity of the latter tasks. Finding the right decision is purely personal. The group size determines actually the probability of whether a person is able to solve the raised problem.

In the process of solving complex issues, group members share their ideas and correct the errors of each other, which, of course, makes the work more effective.

15.7. The quantitative methods for management decisions.

First of all, we define the notion of "operations research" and then consider the formal methods of design and management decisions,

Operations research - the science of decision making and their justification; the constituent part of decision-making. It is based on precise, formalized description of the situation, a qualitative analysis of factors that can determine the possibility of achieving the goals. This set of mathematical, quantitative methods allow the calculation of costs and results in developing and implementing optimal solutions in organizational systems.

The operation's research is based on the mathematical apparatus of optimal programming, queuing theory, mathematical statistics, game theory, expert evaluation, heuristic programming, etc. The special task affects on the choice and the application of each method.

Models with a mathematical point of view can be very difficult, but their structure is quite simple:

$$E = f(x_i, y_i),$$

where E – a measure of the overall effectiveness;

f – a function that sets the ratio between E , x_i , y_i ;

x_i – controlled variables that determine the behavior of the system;

y_i – uncontrolled variables that define system behavior (actions of competitors, the economic situation and so on ..)

x_i – those factors which may affect a person who decides why is necessary to define their set list and the importance of each factor.

To find the optimal solution with using this model, you need to set the controlled variable x in which measure the overall effectiveness will be maximized. Sometimes the value of E may be ineffective, such as E - the value of expenses or production expenses that should be minimized.

First of all, we consider the mathematical programming techniques that are used during the decision-making. We distinguish:

- 1) linear programming;
- 2) nonlinear programming;
- 3) dynamic programming;
- 4) stochastic programming.

The linear programming models are used for finding the optimal solution in a situation of the allocation scarce resources in the presence of competing needs. For example, using the model of linear programming the manager of production can determine the optimal production program, i.e.

calculate any number of items of each denomination should produce to earn the most profit if we know the amount of materials and details, the time of the equipment fund and profitability of each product type. A lot of the developed models for the practical applications are the tasks for the linear programming .

Maximizing (minimizing) function is acceptable criterion for the effectiveness of solving the tasks that correspond to the aim and is called the objective function.

The restrictions characterize the existing opportunities for solving the problem.

The essence of solving the tasks for the linear programming is to find conditions that direct the target function in the minimum or maximum.

The solution that can answer the demands and the aim is called an optimal plan.

If the number of constraints and variables of the objective function in mathematical models of linear programming task is two or three, the task can be solved graphically or analytically. If we have a lot of variables, the problem is solved, as a rule, in an analytical way.

If we take into account the analyzed transactions and forms, other types of models can be applied: in the case of non-linear forms depending on the operating results of the main factors - the model of nonlinear programming; if it is necessary the inclusion in the analysis of time factors - the model of dynamic programming; in the case of possible impact on the outcome of the transaction - the model of mathematical statistics (correlation and regression analysis).

In the models of nonlinear programming, the objective function or at least one of the nonlinear constraints (i.e. the graphs are represented as an indirect - curved lines).

The dynamic programming (dynamic planning) is a mathematical method of the optimization solutions specifically designed for the so-called "multi" (or "multistage") operations.

The essence of solving the dynamic programming problems:

- 1) the optimization that is performed by successive approximations (iterations) in two stages; originally from the last operation in the first degree, and then vice versa - from first to the last degree;
- 2) in the first stage, from these levels to the previous ones is so-called the conditional optimal control;
- 3) the conditional optimal control is chosen in such way that all previous steps ensure maximum efficiency of the next stage. In other words, at each step there is management that ensures the continuation of the optimal operation. This principle of management is called the optimality principle;
- 4) the first step should not have the previous one, the conditional optimal control that is received for the first step loses its conditional and become the best management, that we are looking for;
- 5) the second stage of the optimization begins with the first step, for which the optimal management is famous.

Stochastic programming is a combination **for modeling optimization problems that involve uncertainly**. Thus under likely (stochastic) or random processes understand the processes of change in the time of any element of the system according to the probable patterns.

The task of the linear and some other kinds of programming are stochastic programming, if the parameters of the objective function or constraints (or other ones) are considered as random variables. These tasks are the problem of optimal resource allocation, the transportation problem, the task of inventory management, etc. The solution of these problems in stochastic programming will be more accurate and correct in the reflection of the nature of economic processes.

The two approaches are used in the stochastic programming.

The first approach is simple. It consists in finding the average value and random parameters.

It is a task previously considered appropriate programming. This approach, of course, may not always be effective. This is because under certain parameters (random variables) can be made a decision quite far from optimal because of synergetic effects, which can lead to complications (even absence) of the solution of the problem.

The second approach consists in a multi, a gradual approximation to the desired result. For example, in the first phase the previous best plan is set up, when we solve the deterministic problem that is based on maximizing or minimizing the objective function. The plan is adjusted according to actual set of statistical indicators and parameters on the second phase.

Besides the mathematical programming methods, often the managers use the methods of queuing theory.

Many economic situations is related with the process of queuing theory. For example, it's necessary to serve customers in the shops, the customer service sector, to take orders for repairs and perform maintenance during the limited time.

Objects are called channels, or service vehicles. Requirements (demands) to service are called requests.

If you receive a regular application and all the channels (devices) are unavailable, we have a failure in service, the line is formed. Therefore, the queuing theory is also called the theory of queues.

The methods of the queuing theory are used for finding the optimal number of service's channels at a certain level of their demand. In the situations where such models may be useful, include, for example, the determination the number of telephone lines that are needed to answer for customers' calls; the trolley buses on the route that are needed; the account managers in the bank. The customers should not be waiting for their turns. The problem is that the additional service channels (over telephone lines, trolley or bankers) need additional resources and their work load is uneven (the excess capacity in some periods of time). So, you want to find a solution that allows you to balance the additional costs in service. The model theory of queues, is just a tool of finding the optimum solution.

The operational research section, which examines the effectiveness of their implementation depending on the order of incomings is called the theory of schedule.

During the manufacturing there are irregularities in the performance of certain operations, but sometimes they are essential importance for a particular performer. This may be caused as a priority order or as costs that due to various consistency of their performance on existing hardware.

A typical task of the scheduling theory is the problem of the development schedule of the processing line, which includes with m machines ($i = 1, m$), on which should handle the lots with n details ($j = 1, n$). The criterion of optimal schedule will be minimum time of handling the details n . Thus every detail must be treated consistently at every stall. The input data is length t_{ij} processing on the i -stall j -detail. It is necessary to determine the order of these parts, which will minimize the total period of their manufacture. It's accepted the limit: the handling of the every detail on i stall should not begin earlier than the completion of the handling on $i-1$ stall; at each stall can be simultaneously processed no more than one detail, the operation that is in progress, can not be interrupted until its completion.

Finally, we consider the game models of decision-making (game theory).

The game model is a special kind of the theory models of the decision-making. So far, we believe that decision is taken on the basis of criteria that reflects the effectiveness relatively to us. It turns out that there are a lot of situations in economics, as well as in military operations, which are several parties who have different interests. Therefore, it's impossible to assess the outcome of

decisions, that is taken, the same way. Such situations are called conflict. The theory that describes the conflicts from the quantitative side, is called the game theory. The interests of parties may be completely opposite. Such models are called antagonistic games. But in many situations three or more parties may participate in the game. These games are called multiple. Some parties are united by interests. These games are called coalition.

The play - a model of the situation, some simplified scheme where fix the players, rules, certain victories after each move, the rules of the game. In more complicated games a set of moves determine a strategy.

The main model in the game is that the other party - the enemy, actively oppose you in selecting the optimal solution. Therefore, we must objectively assess the enemy, that stand on his side and believe that the enemy is not intelligent than we.

The general form of the task of the game theory is in a progress in such way. We have some operations (purposeful action), two parties A and B with opposite interests can involve there.

There are rules that govern the results, which lead the options for parties. The results of the actions (wins) are expressed in quantitative form and with the letter *a* (mathematical expectation of the winning side A and that has made its *i* process at the *j* course of the party B).

The game conditions are usually written in the form of pay matrix or matrix games (Fig. 15.5).

<i>B</i>				
<i>A</i>	<i>B</i> ₁	<i>B</i> ₂	...	<i>B</i> _{<i>n</i>}
<i>A</i> ₁	<i>a</i> ₁₁	<i>a</i> ₁₂	...	<i>a</i> _{1<i>n</i>}
<i>A</i> ₂	<i>a</i> ₂₁	<i>a</i> ₂₂	...	<i>a</i> _{2<i>n</i>}
...
<i>A</i> _{<i>m</i>}	<i>a</i> _{<i>m</i>1}	<i>a</i> _{<i>m</i>2}	...	<i>a</i> _{<i>m</i><i>n</i>}

Figure 15.5 – Pay matrix (matrix game)

where *A_i* – the names of strategies of one player , *B_j* – the names of strategies of the second player, *a_{ij}* – the meaning of a player's 1 winnings when selecting their *i* strategy, player 2 – *j* strategy.

The player seeks to maximize his winnings with his view on the behavior of the opposite player. Therefore, a player must determine the minimum value of winnings in each of the strategies and then find the maximum of these values, ie to determine the magnitude.

$$\alpha = \max_i \min_j a_{ij} \tag{15.6}$$

or find the minimum values for each of the pay matrix and then determine the maximum of these values. Size α is called maximin matrix, or lower price in the game.

The size of winnings of the 1st player is, according to the matrix game, the losing value of the 2nd player. Therefore, the 2nd player should be set

$$\beta = \min_j \max_i a_{ij}.$$

Or find the maximum value for each of the pay matrix columns, and then determine the minimum of these values. Size β is called minimax matrix, or the top price of the game.

If the value of α and β are not identical, and the rules of the game are kept (coefficients *a_{ij}*) the choice of a strategy by each player turns unstable. It has the perseverance if $\alpha = \beta = V$. In this case the game has a solution in pure strategies, and strategies, which are reached V, - optimal pure strategies. Size V is called the clean price of the game.

For example, in the matrix (Fig. 15.6) there is a decision in pure strategies. Thus for the 1st player will be the optimal pure strategy A1, and for the 2nd player - strategy B4.

	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>B4</i>	<i>Minj</i>
<i>A1</i>	7	6	5	4	4
<i>A2</i>	1	8	2	3	1
<i>A3</i>	8	1	3	2	1
<i>Maxi</i>	8	8	5	4	

Figure 15.6 – The pay matrix in which the decision is in the pure strategies.

In the matrix (Fig. 15.7) solution in pure strategies does not exist because the lower price is achieved in the game and its strategy *A1* value is 2, while the top price is achieved in the game strategy *B4*, and its value 3.

	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>B4</i>	<i>Minj</i>
<i>A1</i>	7	6	5	2	2
<i>A2</i>	1	8	2	3	1
<i>A3</i>	8	1	3	2	1
<i>Maxi</i>	8	8	5	3	

Figure 15.7 – The pay matrix in which there is no solution in the pure strategies.

The process in the game can be personal and casual. Personal process depends on the conscious decision and the accidental - the result of a random mechanism that is used intentionally or accidentally . For example, gambling often consist of some random moves. The strategy of the player is called a set of rules that define the choices of action during the process of each individual player, depending on the situation. If we don't have any strategies - the final game, or - an endless game.

The task of the game theory is the study of the optimal strategies for both players. The game is repeated many times and players interested in the average winnings. Unfortunately, the optimal solutions have to apply one or another principle of optimality.

The simulation is often used in difficult situations, where we cannot use the mathematical methods.

As a method of modeling, imitation is the process of creating an experimental model and its application for determination in the actual situation. Imitation is used in situations, that are too difficult for the mathematical methods (e.g. linear programming). This is because of a lot of variables, the severity of the mathematical analysis of certain relationships between variables or a high level of uncertainty.

The essence of the method of the simulation - to reflect the system in the mathematical description of the dynamic processes. We can analyze the complex dynamic systems (enterprises, banks, industries, regions, etc.) with the help of this method. Its application involves two phases - the construction of the complex dynamic simulation models, analytical and predictive calculations.

The script approach is a very important element. It allows to multivariate the situational analysis of simulated system. The script is the assessment of the possible development.

The script combines the change of the external conditions with the resulting variables.

The application of the simulation and the script approach allows to build efficient decision support system. They are designed to solve the problems in different areas and for different objects (regions, corporations, macroeconomic systems):

- to forecast and analyze the impact of the administrative decisions;
- to analyze the efficacy and measures;
- to create or choose an optimal solution.

Thus, the imitation of a machine is an experiment, but in artificial conditions. Following this experiment, one or more options are important for the final decision on the basis of the formal and

informal criteria.

Questions for self-check:

1. What is a management decision? What are the specific features?
2. What are the main types of conditions and methods of a management decisions?
3. What are the criteria for choosing a method of making the administrative decisions?
4. Define the goals and the alternatives in a decision theory. What is the correspondence between them?
5. What kind do you know of a set the parameters in a management decision?
6. What do you know about the schemes of the management decisions?
7. What are the features of the analytical decision-making scheme?
8. Can you give the markers to classify solutions and examples of such classifications?
9. What is a modulation? What is a model? What is the procedure of the development models?
10. What is a system? What is a system analysis (approach)?
11. What are the main types the problems and methods of a solution?
12. What is a heuristic programming? Give the examples.
13. What are the opinions of the expert? How are they calculated?
14. What kind of negative effects may occur during the development of the administrative decision in the group?
15. What is the essence of Japanese (ringi) of a decision-making and how it differs from the method of Delphi?
16. What is a brainstorming? What kind of brainstorming do you know?
17. What do you about the quantitative methods of a decision-making? What is the difference between the quantitative and informal methods?
18. What is the operations research? What kind of methods of the operations research do you know?
19. What is the difference between the model linear, nonlinear, dynamic and stochastic programming?
20. What do you know about the methods of queuing theory? What are the theories of schedule?
21. What is the place of the game theory in a decision-making?

CHAPTER 16. ADMINISTRATIVE MANAGEMENT

Objective: to develop knowledge and skills in the sphere of organization management and obtain practice of management and the administrative decision making technology, to work with documents on planning and organization of the manager activities.

Subject: the general patterns of administrative work, the administration of management relations.

Content modules. The notion of administrative management. The concept of management system. Management as a system. The levels of management. Administrative Management. Administrative decisions. Methods to influence the executors. Decision-making while working at the official documents. Collective decision-making methods. Requirements for the manager and the management style. Technology and psychology of business communication. The levels and areas of communication. Styles of communication. Laws of business communication: forms of business communication and peculiarities of their implementation. A career in organizations: career management, the concept of image, stages of career. The information resources of organization. Managerial documentation. The globalization issues in administrative management. Territorial and cultural peculiarities of management in different countries. The influence and role of transnational corporations in administrative management.

16.1. The concept of administrative management

Administrative management is a specific category and activity that includes all the means and management skills in conditions of formal administrative organizations. Structuring of relations within such organizations is a peculiarity of administrative management, as a kind of activity.

The objective of a manager consists in creation of an effective administrative structure for organization and development of rules that describe the functioning of such organization in definite predictable conditions.

It's not enough for a manager to have all the necessary resources, he needs an efficient mechanism for their management, and this concerns not only material but also human resources. The ability to administrate all types of resources involved in the organization for its benefit and for achieving the objectives of the organization is the principal skill for an administrative manager.

The efficiency of administrative decisions depends to a great extent on qualities, characteristics, features of managers, i.e. persons who make decisions. In case of personified decision-making, one can distinguish individual features of a person, who makes this decision, along with some permanent features. In case of a collective decision-making the combination of individuals' and permanent members' personal features - a collective entity that makes decisions is important.

A person that makes decisions is an individual or a group of individuals who perform a choice of a particular alternative in a form of decision and is responsible for the consequences of its implementation.

The concept of a person who makes decisions, on the one hand, is wider than the notion of manager, since the decisions are taken not only by managers. On the other hand, the manager activity consists not only in decision-making, but also in performing other tasks. The decisions, made by a manager affect the competitiveness of the organization and ability to achieve its goals.

The core functions of management are performed by all the administrative staff. However the most significant and crucial is the activity of a manager, who performs different but interconnected functions. The important group of manager's functions is connected with decision-making. The determinant characteristic of management is the fact that it controls people. That's the reason why the interpersonal activity of the manager is so important.

The manager to the great extent is engaged in providing the current activities of the organization. He or she depends on the staff, that deals with the collection of information, drawing conclusions about the value, the probability of events, reaction and options for decision-making, judgments about the best alternatives. The manager makes a decision that was previously prepared by his subordinates. He considers it to be his own decision, though in fact it was prepared and adopted by many people.

16.2. Conditions of effective management decisions

The level of decision-making informational support is conditioned by certain factors. There are some situations that can influence the judgments of a person, who makes a certain decision about lack of information and change it, which can result in the available information being considered adequate and sufficient for carrying out a program. A manager can continue collecting separate components of information concerning decision. One of the skills of the person who resolves decisions, is the ability to accurately determine the components of this decision that require additional information and that need no further data collecting.

The time required for data collecting, should be determined in terms of the decision. Often it is the interval between the moment when it becomes clear that the decision should be made, and the moment when decision is necessary.

The limit of time for making a decision, and therefore the time available, can itself be a decision. Available time is also the driving force for making a particular decision. A person, who is about to make a decision in a short period of time will be pressed until the decision is taken. Decisions that are not conditioned by the time limit may be taken depending on the willingness of the person who makes decisions. There is very restricted list of manager duties, which strictly defines in what way and when anything should be done. In this situation, freedom of action choice is completely excluded. The width of choice is determined by the ability of a certain manager to perform certain work in a way that is different from the others. To make a decision it is necessary to define the requirements and restrictions in work.

The requirements to work determine the range of manager's duties. The internal and external factors contain restrictions that determine the sphere of possible actions. Depending on the ratio of specific requirements and restrictions, three types of works may be distinguished (Fig. 16.1)

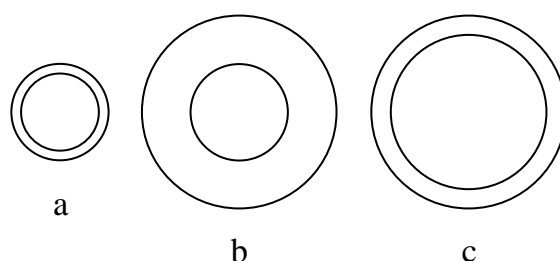


Figure 16.1 – The proportion of requirements (The inner circle) and restrictions (outside circle):

- a* – a narrow set of requirements and restrictions;
- b* – a narrow set of requirements and a wide range of restrictions;
- c* – a wide range of requirements and a wide range restrictions

The second type of work involves the manager's greatest freedom of action. It is needed to solve unstructured open tasks. The first type of work must be carried out under a narrow sphere of control, and the third – under a broad sphere of control.

The effectiveness of decision is defined by its contents and approach of the person who decides to implement it. One should distinguish between the idea about a decision of a person, responsible for decision-making and the decision that must be made. It's not always the same. Managers have a definite "corridor of power" concerning the formulation of the decision that should be made. The purpose of this "corridor" is to expand the decision context. The change in the boundaries of the decision or revision of the approach to the interpretation of its elements is possible.

There are such limits of decision: the nature of its adoption (individual and collective), the nature and quantity of objectives; the range of options for decision-making (discovered and analyzed), the determination of analyzed uncontrolled factors quantity.

Many alternative solutions are dynamic. Especially interesting are the problems where the number of available alternatives is reducing. This leads to freedom of choice restriction (FCR). It is known that a forbidden fruit is the sweetest. There is a high probability of making a choice that is not recommended.

There are also social factors such as family, school, and organization. They put pressure on the person to make her select a definite alternative. So, parents are trying to influence the choice of profession made by their children, the manager influences his subordinate, inciting the latter to take a certain position. According to the theory of reactive resistance, the attractiveness of recommended alternatives decreases and tendency to their rejection increases. The behavior of a person responsible for decision-making process is influenced by the formation of task conditions: immediately or within a certain period of time.

16.3. The stages of management process

The controlling process is a complex of stages developing the management decisions. The real managerial situation is characterized by complexity, presence of risk and dynamics. Management decisions taken in the real business practice are far from effective. The implementation of even relatively simple means, all the more integral scheme of decision development, can significantly improve the efficiency of management.

The main stages of decision making are illustrated by Fig. 16.2.

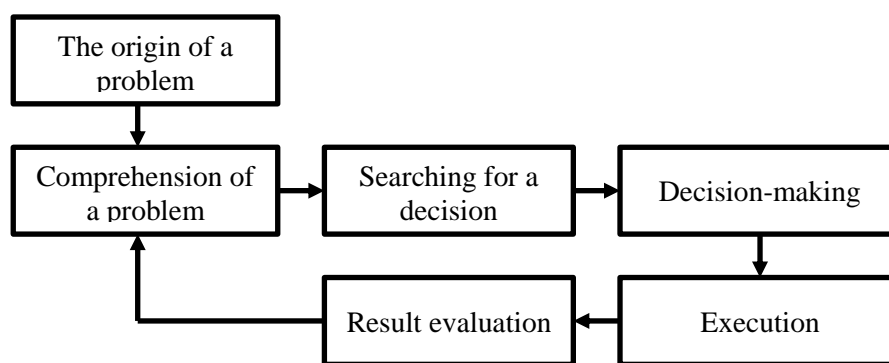


Figure 16.2 – Stages of the decision process

One of the most difficult stages in solving a problem is the transition from an undesirable situation to that one that contains an accurately formulated question. Striving for a clear understanding of the problem often leads to its inadequate evaluation. Such inadequacy can have two extremes: excessively simple or on the contrary, excessively complicated presentation of the real problem.

When first approaching the problem it is naturally to know and understand it, to control the very unclear and uncertain situation. In such a case, the tendency to localize or simplify the presentation of the situation through hasty conclusions may develop. The analyzed problem can only be a manifestation of another fundamental problem. One should direct all the efforts to identify this fundamental problem.

The methods to impact on the executors. Management functions are realized through the influence of the manager on the staff or individual employees, taking into account various motives of their activities.

Motives may include:

- *Forced*, based on orders and instructions;
- *Material*, based on the interest or sanctions of material nature,
- *Spiritual*, providing material impact on the producer staff and individual team members.

According to this, one can distinguish such groups of management methods (Fig. 16.3):

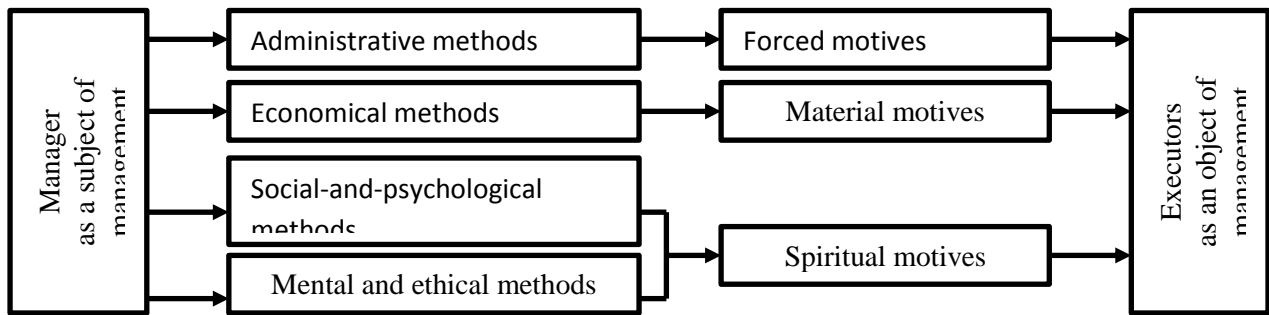


Figure 16.3 – Scheme of the manager influence on the object of management

- Administrative methods* include the obligatory implementation of the directives and orders. Failure to comply the orders is regarded by the manager as misconduct and causes certain penalties;
- Economic methods* of management presuppose creation of such economic conditions that motivate employees and employee staff to move in the necessary direction and to execute the tasks set before them in accordance with generally corporative and personal interests;
- Social-and-psychological methods* of management are based on the use of social-and-psychological factors and are focused on management of social-and-psychological processes occurring in the staff, to influence achieving their objectives;
- Mental and ethical methods* of management are based on principles of morality, knowledge of the mental state of the staff and using these principles to provide a purposeful influence on the mental and ethical qualities of employees to achieve their objectives.

The methods of control allow managers to use different ways to influence the staff. The main objective of the manager consists in the right choice of management methods in specific situations. Selection of the method of management is conditioned by a number of factors, most important of which are: personal characteristics of the manager, his staff management experience and the level of management.

16.4. Management of information resources of the organization

Nowadays, the role of information in all spheres of life significantly increases. In economics, the role of information as one of the central resources is undisputed.

Information is the data about objects and phenomena of the environment, its properties, characteristics and condition that reduce the existing degree of uncertainty reflected in a particular environment of its preservation, processing and transmission. Along with the term "information" the term "data" is often used.

Data can be examined as the signs or written observations that for some reason are not used, only stored. If there is a possibility of using them to reduce uncertainties about anything, the data is converted into information. That's why information is the used data.

Information object is a description of a specific substance (real objects, events, processes, events) as a set of logically related information (information elements).

Information resources is a combination of knowledge and information about the surrounding environment, collected and placed on any data media (documents, databases, etc.) , that can be used for the benefit of the organization.

External information is an economic, social, business, etc. information that describes and characterizes the state of the external environment.

Inside information is the result of the company activity (final and intermediate), forecasts, tasks and activities (market research) and production-and-supply resources, determined by the technical level of the enterprise.

Depending on the time of receipt we may distinguish between primary and secondary information.

Primary information is the information, collected specially for the preparation of this solution. The decision-making person did not possess this information previously. It is obvious that to obtain primary information one needs a considerably larger resources base than to get the secondary information.

Secondary information is the information that was already in possession of a decision-making person before the moment of working out this decision. Its data sources are operational, accounting, reference publications, regulatory acts.

The dependence of results on quantity and quality of information. Uncertainty in decision-making can be measured by entropy index E , i.e. the amount of information about the future state of an object that could not be obtained during the surveys. The future state of the system is described by a set of parameters, the precise meaning of which remains unknown. Depending on the properties of the object, volume and content of incoming information, forecasting methods and other conditions one can determine only one or another interval of its possible values. Together, these intervals of possible values of the parameters describing the object form a region of its potential conditions that may be characterized by range of information, measured by the entropy E . The more exact the forecast is, the smaller is the area of possible object conditions and therefore less is the entropy E and vice versa.

Dependence of the uncertainty in forecasting the volume of incoming information, i.e. the function $E_{\text{docm}} = f(I)$ may be represented by a hypothetical dependence, illustrated by the Fig. 16.4.

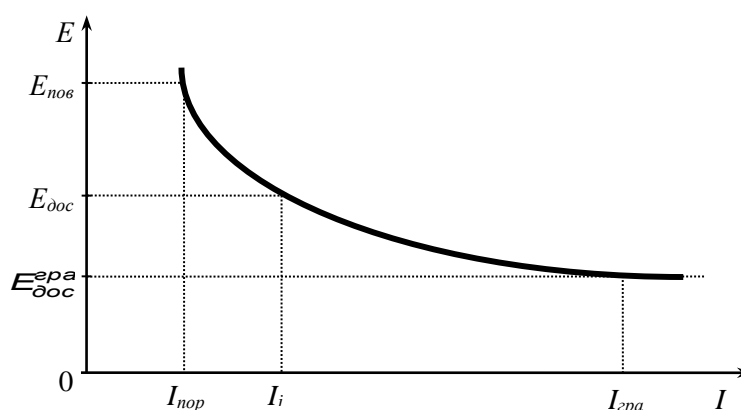


Figure 16.4 – Hypothetical dependence of uncertainty in forecasting on the number of initial information

where I_{nop} – is the minimal (limit) number of necessary initial information. If the volume of the initial information is smaller than the I_{nos} , no judgments about the future of the object are possible;

I_{zpan} – is the maximum amount of information that can be used if its further increase does not reduce the uncertainty in forecasting.

The real uncertainty in the forecast E_{docm} is in the interval $E_{\text{nos}} \geq E_{\text{ocm}} \geq E_{\text{docm}}^{\text{zpan}} > 0$, where E_{nos} denotes absence of the forecast information, i.e. E_{nos} – is entropy of the area that determines the parameters of the future object condition;

$E_{\text{docm}}^{\text{zpan}}$ - residual forecast uncertainty that cannot be allowed by any objective means.

16.5. Group behavior in the organization

The phenomenon of group behavior is that people on the one hand, like to interact with each other, but on the other hand they want to be responsible only for themselves.

A group - is an organizational system of two or more individuals that are interconnected with each other to perform a certain task, in which the behavior or activities of one member affects the behavior or activities of other members.

Formal groups – are the groups formed by the decision of a manager to meet organizational goals.

Such groups form the norms of behavior - standards that under such circumstances are acceptable for everyone; they force the employees, regardless of their will to follow these norms. When people enter these formal groups they, as the rule, are aware of the purpose (or the reason) they enter.

Demands and development of the organization form two types of formal groups: management and operational.

Management Group is an organizational structure that includes the manager and subordinate employees that report back to the manager in accordance with established procedure.

The task force consists of employees who perform any task or work together of a certain project and are united by one objective or task.

Informal groups – are unaffected groups of workers that are created to meet their social needs. There are two types of informal groups: interest groups and friendship groups.

Subsequently, all groups, both formal and informal, face certain changes - there is a so-called group dynamics. Formal group systematically develop according to the organizational goals. Informal groups develop according to their domestic laws, in a rather random way and thus affect the formal organization. Therefore, the management should not be indifferent to the informal groups as a part of the organization.

Reasons of forming groups:

1. *Satisfaction of the requirements.* The desire to satisfy our own needs, which is not always conscious, can become a strong motivation to form the groups. Specifically, to some extent, some workers and employees, participating in the group, can satisfy their material needs, security needs and other needs concerning with communication, respect and self-expression.

Material. In many cases, groups are forming mainly because of the desire to obtain economic benefits from our work. Working and acting in the group, individuals can receive a higher benefit.

Security. The employees may feel their vulnerability to the leadership and entire organizational system without the group, which can give a support.

Communication. People's sociability stimulate their need in the unification and the desire to be a member of the group demonstrates the strength of their social needs.

Respect. In any working environment some certain group can be considered as a prestigious one, because of many reasons. A membership in such a group can create the necessary feeling of satisfaction for workers.

2. *Similarity and Attraction.* Interpersonal interaction can promote the group. Two important aspects of interpersonal interaction are the closeness and attraction. The word closeness means that factor, which draw workers and employees together during their work, the attraction means - the level of drawing people together, implying the perceptual activity, i.e. the same treatment to the production, or the degree of the motivational similarity .

3. *The whole groups are divided.* The whole groups (if they are properly understood) can promote the attracting of the individual's attention. A person, who has voluntarily entered the group, believes that it is necessary for the further work and the organization. But not always it is possible to set the goals in the group.

Stages of group formation. Modelling of the group suggests that they go through four stages: mutual recognition of its members, communication and decision-making, motivation and productivity, control and organization.

1. *Mutual approval.* At the initial stage of the group its members usually are reluctant to communicate with each other. Unless they don't find out something about each other and will not trust each other, it is unlikely that they will be inclined to talk. The next stages are: the acquaintance with the behaviour, the participant's abilities of the team, the approval and separation of roles.

2. *Communication and taking of decisions.* After the members of the group approve each other, they begin openly communicate with each other. A mutual understanding is achieved, an open communication begins, and it's possible to do tasks.

3. *Motivation and Effectiveness.* This stage of development requires the substantial efforts of the teams' members to achieve its goals. The effectiveness of group decisions and actions increase because of the accumulation of common experience.

4. *The control and organization.* At this stage, a special attention is devoted to the membership in the group, in which all of the members operate under due to the rules of the group.

Norms - universally recognized standards of an individual and group behaviour, which were formed and observed by the members of the group.

The hierarchy in the groups is caused by the following factors:

- 1) *status* - the amount of features, which makes a special place in the group;
- 2) *role* – an organizing list of rules, an expected character and a list of individuals' actions in certain situations.

There are the following roles:

- *Predictable.* Person performs in the structure of the group an associate (alleged) role, characterized by its expected attitude to the business which should correspond to this position;
- *Proposed role.* Behaviour and attitude of a person to the business correspond to the role that actually is performed;
- *Actual.* Behaviour and Attitude of the person who occupies a position does not correspond to a predictable role.

As a result, that people are members of numerous groups, they have to play different roles.

Role concept. The official position corresponds to a certain activity that defines a role of this position in terms of the organization.

Multiple roles – are those roles that are performed simultaneously, because the individual has a definite place in different organizations and groups.

Each group may have different expectations about a particular person who performs a role. This is called an outline of the role.

Profile role - the individual expectations of certain behaviour from the person who performs a certain role.

Role of perception - the perception of the individual at different hierarchical levels of organization (e.g., a director in terms of employee and director of the factory).

Role conflict - it arises when a member of the team receives incompatible commands due to a certain behaviour. Within the organization there may be several types of role conflicts.

The conflict "person – a role" can exist only in that case if v the basic requirements of the role break the main value, attitudes and needs of the person, who occupies the position.

The conflict within the role occurs when different people define the role, following differing requirements, not allowing the person who plays this role, to satisfy all the requirements.

The conflict between the roles caused by collisions of multiple roles, because individuals perform multiple roles simultaneously, and some of them are related to conflicting expectations.

Individual, facing with the role conflict, feels a psychological stress, which can cause emotional problems and indecision to action.

Control of the group behaviour. In formal and informal groups there are common relations, behaviour and activities. This affinity, which characterizes the cohesion is considered as the force acting on the group members and helps to keep members in the group and not exclude them from it.

Unity - the state of the group and its members seeking to remain in it as the result of the prevalence of group interest over personal interests.

Groups, that have a high level of their commitment of its participants, consist of individuals, who largely have motivation of being involved, there is a tendency that an effective activity is expected from such a group. Recognition of the groups' impacts on the activities of the organization has an important matter for the manager, because the question arises- should the cohesion of the groups be encouraged or not.

Cohesion and effectiveness. The degree of cohesion of the group may have positive or negative impact it depends on that fact how the whole group agree with the goals of organization (Fig. 16.5).

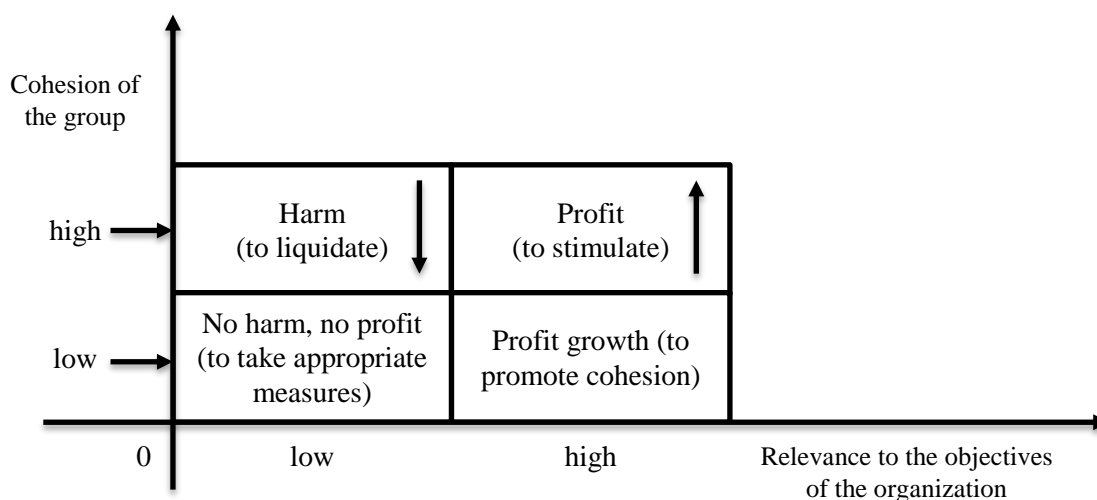


Figure 16.5 – The gradation the group cohesion

To encourage the group cohesion one should do the following things: make it smaller, to encourage group members to agree with its purposes, to encourage competitions with other groups, to issue a reward to the whole group, not to its individual members, and if it is possible to isolate group.

To prevent group cohesion - to make the group larger, to disband it, and give rewards to individual members, not to the whole group; to encourage disagreement with the group tasks, do not isolate the group.

Groups with high level of cohesion are a serious force in the organization.

Management is able to minimize intergroup conflicts and must constantly remember, that the consequences of the conflict for the organization can be a decrease of the work of the whole and individual members and groups, and at least the overall productivity of the organization.

16.6. Communicative process and communication in the organization

The notion of dialogue and communication. Communication is the transmission of information and its understanding, using verbal or non-verbal symbols in a certain environment.

Environment – the sphere where communication is characterized by the degree and speed of the feedback.

Communication - it is messaging as a result of which the superior receives the necessary information for effective decision-making, and brings it to the attention of employees.

One can distinguish such elements of communicative process.

The sender (communicator) - the person who generates ideas, gathers information and sends it (in the organizational structure - a servant who has certain ideas, intentions, objective information and communication). Communications is the informational idea that is encoded by symbols. Channel – a way of communication. Signal - information which is transformed into symbols. Recipient - the person for whom information is intended.

The communicative process includes the following stages:

- 1) the formation or selection of ideas (origin of ideas);

- 2) coding and channel selection (conversion of an idea into a report with a help of words, gestures, intonation, choice of transmission by telephone or electronic communication, video-tapes, etc.)
- 3) transmission of ideas;
- 4) decoding (recipients translate (decode) messages using their own experience and competence);
- 5) Making of the feedback (feedback is provided by a channel for receiving responses, which allows the communicator install if the message is received and caused the expected result).

Barriers can occur at any stage of communication. Noise appears in the communicative process. Noise - it is something that distorts the content (deviation, errors, etc.). Thus, some inaccuracies in the transmission of information should be taken into account.

The main kinds of information should be mentioned: relevant, bureaucracy and information, which confuses.

Relevant information - is complete and sufficient information concerning the specific question and is used to solve a particular problem.

Information, which confuses - information that is taken into account, but that is not relevant to a specific issue and hinders management decisions.

Bureaucratic information - circulates in the company, but is not taken into account and does not apply to address specific organizational problems.

The information, which is directed from lower to higher levels, is the same messages that are added and summarized to be on upper levels. Therefore, duplication reduces and the usage of information increases. The information on the way to the upper level must be to aggregated, integrated and compressed.

The degree of integration and degree of contrast generation (distribution) are described by the process of increasing or decreasing the amount of information in communication channels with the measure of its ascending or descending motion.

Pressing of information is the process of reducing its volume to a certain permissible limits, which the consumer does not feel in the process of control.

Barriers on the way of effective communication. Manager has no more important task than the development of effective communication. Let's consider the main barriers of communication.

Competence. Different personalities can interpret the same message differently depending on previous experience, leading to variations in the processes of encoding and decoding.

Selective hearing. In this form of selective perception personality tends to block a new information, especially if it conflicts with the existing reasoning.

Value judgments. In each communicative situation, receiver makes value judgments based on past experience.

Reliability of sources. The reliability of the source means the trust to the words and actions of the communicator from the recipient's side.

Differences in perception - reflects the fact that different people may perceive the same thing quite differently. Available differences among people in social settings and reference points can also distort interpersonal relationships.

Semantic issues (differences of terminology). There are differences in interpretation of the meaning of words which are used for communication, with different understandings of language, expressions, texts.

Filter (intentional reduction of information). Filtering - a widespread phenomenon in ascending communication in organizations which belongs to the manipulation of information and it is perceived positively.

Intragroup language (internal terminology). Labour, professional and social groups often create jargon which is understood only to members of these groups.

Effect status. Communication can be greatly complicated if there is a large difference in the status of recipient and sender.

Weak feedback. Many managers do not know how to listen and do not know what it is - an effective hearing of the interlocutor.

Non-verbal interferences. Practical psychology learns that only few people receive information through words: 55% of the information is perceived through facial expressions, postures and gestures, 38% - because of the intonation and modulation of voice and only 7% - through words.

Everyday speech activities provide managers to an effective interpersonal communication. They should strive not only to be understood, but also to understand.

16.7. Conflict management in organizations

For manager conflict is a major problem because its consequences can be unpredictable and constantly destabilize the constructed system of organization. Therefore, one function of the manager is the ability to prevent the occurrence of conflict situations, to smooth their results, resolve disputes, the ability to include people in cooperation.

The conflict – is an open clash of parties, ideas, forces associated with the difference of views on goals, ways and methods to achieve them, the nature of the tasks and ways to address them.

The conflict - is the lack of agreement between two or more parties that can be certain individuals or groups. Each side does everything to make her point of view or purpose approved and prevents the other party to do the same.

A conflict can be considered the following way:

Causes of conflict = conflict situation,

Where the reason is - the real facts or events that cause a conflict of interest party;

Conflict situation –is a random or provoked incident, which is a pretext for confrontation.

The paradox consists in that fact that even in organizations with the effective management, some conflicts are not only possible but are desirable. Thus, conflict can be functional and provides the efficiency of organization. Conflict also can be dysfunctional and leads to the lower personal satisfaction, group cooperation and effectiveness of the organization.

Types of conflict:

1. Personal conflict. This type of conflict can take many forms, including the most common a form of role conflict, where conflict demands are laid down to a certain person concerning the result of his work or the production requirements don't agree with personal needs or values.
2. Interpersonal conflict can occur as a clash of personalities. People with different characters, attitudes and values sometimes simply cannot be in harmony.
3. Conflict between individuals and groups. There can be a conflict between individuals and groups if a person takes a position that differs from the position of the group.
4. Intergroup conflict. Organizations consist of a set of formal and informal groups. Such conflicts between groups may arise even in the best organizations.

Causes of conflict may include:

- 1) limited resources. The degree of interdependence dramatically increases in the distribution of scarce resources, and any differences due to the goals of certain groups become more pronounced. The need to allocate resources almost inevitably leads to various kinds of conflict;

- 2) The structure of incentives. Conflict can occur in those cases when the reward system presupposes the recompense of each group or person and does not impact the entire organization as a whole;
- 3) differences in goals. With the development of the organizational individual subdivisions, they often begin to pursue different goals. These phenomena can lead to different members' expectations in each subdivision;
- 4) Task interdependence. The possibility of conflict exists everywhere, where one person or group depends on another person or group in the work;
- 5) differences in perceptions and values. The idea of the situation depends on the desire to achieve a certain goal. Rather than objectively evaluate the situation, people can only focus on those perceptions, choices and aspects of situations that they consider to be conducive to group or individual needs;
- 6) differences in perception. Separate groups that are part of the organization, perceive components of real activity differently because of many factors, which can lead to conflict;
- 7) differences in demeanour and life experience. The likelihood of conflict can also be increased by the stereotype views based on experience;
- 8) poor communication. Poor transfer of information can be both a cause and consequence of conflict;
- 9) different temporal horizons. Temporary prospects and lack of time affect the hierarchy of priorities and goals, which are pursued by various individuals and groups;
- 10) dependence the management on the professionals' knowledge. Managers often do not have the technical knowledge which is necessary to manage their departments successfully, they have to be depended on experts.

The consequences of conflict. The consequences of conflict can be roughly divided into functional (positive in nature) and dysfunctional (negative).

Functional implications. There are several functional consequences of the conflict. One of them consists in that fact that the problem can be solved in an acceptable way for all parties as the result all parties will be involved in the conflict and its solution. Another functional consequence provides parties to be more willing to cooperate, rather than antagonism in the future conflict situations. Due to conflicts, the team can work out problems relating to implementation before the decision is made.

Dysfunctional consequences. If conflict is managed badly or administered ineffectively, it can lead to such dysfunctional consequences, i.e., conditions that hinder the goals: dissatisfaction, bad mood, increase the staff turnover and reduced productivity, lower degree of cooperation in the future, increase hostility between the parties as to reduce interaction and communication and so on.

Managing conflict situation. There are several effective ways to manage conflict situation. They can be divided into two categories: structural and interpersonal.

Structural methods of management of a conflict situation include:

- *elucidation of requirements for the work*. It is necessary to explain, what results are expected from each employee and subdivision. Here such parameters should be reminded: a level of results, that should be attained; provider and recipient of various information; a system of the authority powers and responsibility;
- *co-ordination and integration mechanisms*. A chain of commands is one of the most widespread mechanisms. Establishment of authority hierarchy promotes the arrangement of people's co-operation, making decisions and informative flows within the organization. If two or more employees have divergences with each other on any issue, a conflict can be avoided,

- appealing to the common chief, offering him to make decision;
- *general and organizational complex aims (superordinary aims)*. Effective realization of these aims requires common efforts of two or more employees, departments or groups. The idea, that is the basis for this methods, consists in directing of efforts of all participants to the achievement of a general aim;
- *structure of the system of rewards*. Rewards can be used as a method of management of a conflict, having influence on employees for avoidance of disfunctional consequences. People, who contribute to the achievement of the general and organizational complex aim, help other groups of organization and aspire to decide the problem comprehensively, should get a reward as gratitude, bonus, confession or promotion.

Interpersonal styles of conflicts decision:

- *deviation*. There are often such situations, when there is a possibility to avoid or evade a conflict. Although such method can hardly bring any advantages in the long perspective, it can appear entirely acceptable as a temporary way out of that situation that arose up;
- *smoothing*. Using this method, underline common interests of conflicting groups and differences and reduce them. A smoothing idea consists in the fact, that a stake on the community of estimations of some issues makes faster the achievement of the common aim;
- *compulsion*. Attempts to compel to accept the point of view at any price predominate within this style. One, who tries to do it, is not interested in other points of view, as a rule, behaves aggressively, uses power by a compulsion for influence on others;
- *compromise*. This style is characterized by the acceptance of point of view of other side, but only to a certain extent. A capacity for a compromise is highly valued in administrative situations, as it minimizes an ill-will, that often allows to resolve a conflict quickly and satisfy both sides. A compromise allows to avoid appearances of obvious winners and losers, though the attained decision, probably, will not be ideal for each conflicting groups;
- *increase of available resources*. As it was already marked, one of the major factors, that leads to the origin and development of intergroup conflicts is the limitation of available resources. An increase of available resources can be one of the ways of a decision of similar problems;
- *authoritarian management*. The use of the authoritarian methods of management is the most frequently used method of conflicts decision. Using this method, guidance decides a conflict situation, how considers it necessary, and reports the decisions to all groups, involved in a conflict. Subordinates usually execute the order of top management regardless whether they are agree with the taken decision or not;
- *replacement of a human factor*. Replacement of a human factor is aimed at the change of behavior of group members. Such method is aimed at the elimination of reason or reasons that cause a conflict, and at the change of relationships of people, involved in this conflict. Although this method is characterized by the high degree of complication, it is concentrated on the detection and localization of reason of the conflict. This method, despite a high cost and relative slowness, can appear one of the most effective in a perspective;
- *replacement of structural factors*. Another way of the decision of intergroup divergences is a method of replacement of structural factors, or variables, that is changing of the formal structure of organization. It determines the fixed correlations between the working functions of the organization and contains the chart of distribution of tasks and departments. Restructuring of organization for the decision of intergroup conflict includes transfer, replacement, exchange or moving of members of conflicting groups, and also introductions of coordinator or mediator, who carries out connection and co-operation of the groups, involved in a conflict;

- *identification of a "common enemy"*. To some extent identification of a "common enemy" is the positive side of methods, that is based on the use of the method of superordinary aim. Groups, involved in the conflict, can temporary decide contradictions, existing between them and unite in a fight against a "common enemy";
- *decision of a problem*. This style is based on the confession of divergences in ideas and willingness to become familiar with other points of view, to understand reasons of a conflict and do actions acceptable to all parties. The confrontational method of problem decision involves the reduce of a level of existing tension by means of direct meeting organization of the representatives of conflicting groups. Conflicting groups openly discuss various issues and share their knowledge about all relevant information until any mutually accepted decision. This style is the most effective in the decision of organization problems.

Each of the used methods has the strengths and weaknesses and can be more or less effective depending on concrete terms or situations.

16.8. Management of negotiations

Everyday, every manager faces a considerable range of issues relating to the conduct and operation of the most businesses. Most of them are predictable and require the acceptance of usual management decisions. Others are discussed in the collaboration with colleagues. But from time to time there are issues, search solution of which is possible only in direct contact with clients, customers, business partners.

Identification of business negotiations with the usual thematic dialogue is wrong and may not only cause their perception, but the same simplified attitude to them. In fact, a competent business meeting is a kind of art that is born on the joint of management with rhetoric, psychology, logic and etiquette.

Negotiations are the method of collective decision-making to maximize the collective benefits.

Negotiations should have the aim - solution of the problems. Negotiations are not a compromise, but a search of the new solutions, rather than averaging those, that exist.

The preparatory stage of negotiations is the most important. It is enough to notice, that when key issues relating to the strategy of business development, considerable investment, etc. are discussed on the negotiations, large companies are involved in the preliminary work of experts on economic intelligence group of analysts. At the preparatory stage it is necessary to study issues and problems, that will be discussed at the negotiations, and the companies and people that should be associated with.

Preparations for the negotiations includes the following stages:

- clarifying of own positions, determination of the range of maneuver, own competence;
- studying of the position of the other party;
- selection of the criteria and methods of evaluation of the facts;
- preparation of a list of questions and possible explanations for the questions of opponents;
- studying of all alternatives of the situation;
- selection of participants, predicting the selection of participants from the side of opponent;
- evaluation of available resources.

It should be clear, that there are only two basic models of the negotiations: the first - when they occur on equal and both sides are equally interested in their successful completion, and the second, where one party is the donor and the other - recipient.

During the negotiations, the participants may behave differently. There are such patterns of parties behavior:

1. *From the position of force.* Negotiators are opponents. The aim of the negotiations is a victory.

There can be any means - the aim justifies the means: the requirements of concessions as a condition for further negotiations, the expression of mistrust, hard defending of the position, uncovered threats, concealment of actual intentions, requirements of unilateral benefits as compensation for the agreement, obvious desire to win emotionally, various pressure, search for the solution, that the opposite side should adopt.

2. *From the position of weakness.* Negotiators are friends. Purpose is a deal. Means that facilitate agreement: conscious concession for the maintenance and development of the relations, changing of the positions, developing and providing of new proposals, the openness of the intentions, the ability to yield to pressure, search of a solution, that can satisfy both parties, aspiration to avoid emotional volitional fight.

As the result of the negotiations *reasonable agreement*:

- corresponds to legitimate interests of each party;
- rightly regulates the interests that face;
- is a long-term;
- takes into account the interests of society.

Thus, even before the negotiations themselves strategy and tactics of behavior are determined, where the strategy is understood as the task-maximum and the task-minimum, but the tactics — as practical steps for their implementation.

Role structure of the well-balanced team:

- 1) *chairman* — leader of the course of the meeting, works, one, who makes decisions, organizes, has a consistent approach to business and people;
- 2) *navigator* — unites aims, ideas and practical considerations in a single real object;
- 3) *generator of ideas* — provides the group with original ideas, opinions, assumptions. He is a supporter of a radical approach of solving problems;
- 4) *critic* — engaged in a balanced analysis of concepts, one, who does not allow collective to take a reckless plan;
- 5) *realist* — provides plans with a feasible form, aspires to attain the aim, organizes a concrete implementation of tasks;
- 6) *connector* — quickly finds out all new things, easily solves difficulties, that arise, comradely, one, who arouses liking;
- 7) *peacemaker* — a nice, pleasant in conversation, popular, one, who avoids conflicts, soothes others and carries out communications;
- 8) *closer* — pedantic, demanding, one, who loves order, possessed with the correctness of what is happening.

For the correct selection of negotiators, and thus for effective work, it is necessary to define the type of negotiations and requirements to the candidates:

The moment when the negotiations should come to the end, can be identified by several features: all aims are achieved, the opponent is ready to end the meeting, the additional real options are absent or the company has other alternatives. Having taken the decision about the completion of the conversation, sums up all said and heard, highlight the positive and negative aspects and make a final decision. After this negotiations can be considered completed. You can judge about their effectiveness later.

16.9. Career in the organization

Career is an individually realized sequence of the relations connected with work of the person during the life. Despite the latter, personal life and roles in it have great meaning.

Career is a sequence of activities, that determines the final attitude of personality to work and its behavior.

Effectiveness of the career — degree of the satisfaction by the sequence of the relationships in the career.

Efficiency (salary + place in a hierarchical system of organization). The higher level of the hierarchy is, the more responsibility, appropriated budget, personal income.

The most popular indicators of the career efficiency are salary and hierarchical position. Thus, the faster wage increases and the top of hierarchical gradation is reached, the higher level of career efficiency. The organization, of course, is interested in the effective career, because it is directly related to the organizational efficiency. Thus, the rate of salary increase and reached hierarchical position mostly reflect the degree of individual's needs in the organizational work.

Career relationships — the way of individual perception and evaluation of the career. The term "career relationships" refers to the way of individual perception and evaluation of his career.

Adaptation of the career. There are a few stable professions. Conditions and demand for certain types of works are changing. There is a need for continuous professional growth, and in various directions. Career planning should contain a few rules and be able to adapt.

The identity of the career. Combines two important components:

- 1) individual's realization of their interests, values and aspirations for the future;
- 2) perception of the life as a sequence in time, and themselves - as a continuation of the past.

Stages and phases of the career. **Stages of the career** — a set of positive differences and responsibilities that characterize the transition from one position to another. The process of implementation of the career has specific stages: staff, progress (success), support, leaving (Fig. 16.6).

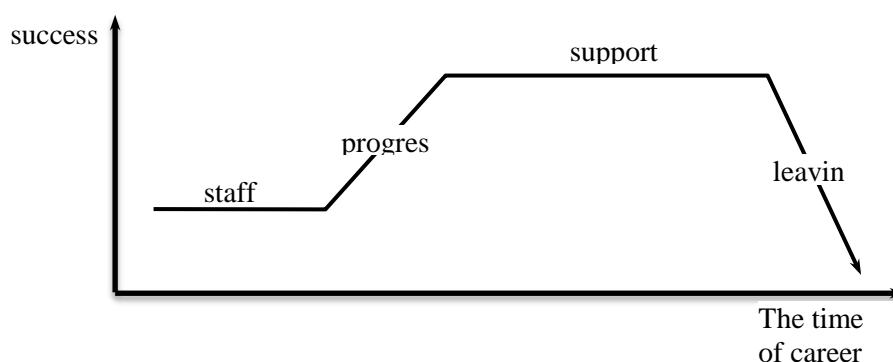


Figure 16.6 – Stages of the career

At each stage of career needs and expectations, that take the form of career landmarks, are changing. Later career landmarks are changing and are placed depending on the motion in the life and career.

Stage "staff" is rather fast. Stage of progress lasts longer, rates of career growth are rather high. At these stages a person usually works for the perspective, so not particularly pays attention to the signs, that accompany career growth. At the next stages the situation is changing due to the age and professional overrating of personal achievements.

Stage "progress" is a movement from one position to another either within the organization or out of it.

Stage "support" is characterized by the efforts to strengthen the position achieved in the past. To some extent this stage is a kind of plateau, on which new tops are not reached. It can be even creative period, during which the person has satisfied most of the psychological and financial needs related to the early stages. Although every person and career is different, it is believed that respect is the most important need at the stage of support.

Leaving stage comes after the stage of support. As a result man completes one career and can start another. During this phase, he can try to become confirmed in those activities, in which he can not be engaged, working. Painting, gardening - are just some of the probable employment of pensioners. As it is shown in the Tab. 16.1, reorientation in other areas and re-passing all stages of their career are possible.

Table 16.1

Possible move to another field of activity and repetition of the phases

	Staff 18–24 years	Progress 25–39 years	Support 40–45 years	Leaving 55–65years
Initial activity related to the career	Obtaining of work, knowledge	The formation of employee	Improving the management of work of others	Passing of experience
Initial psychological needs	Independence + normal reward	Reward depends on the work	Satisfaction of the needs depends on others	Removal from the work
Revision of needs	Maintenance	The position of autonomy	Respect	Removal of oneself

Phases of career. *Career phases* are the sequence of works, done during the career development. The conception of career way involves the idea of motion upwards in the organization by one of the "ways", of course by *administrative* or *linear*.

Many manufacturing firms have a "double stairs". Specialists, who do not want to move to the administrative work, can at the same time increase on their own line.

Career planning is a combination of personal aspiration for the career, that is a sequence of certain works with possibilities that take place in the organization. Career planning contains determination of the ways, which can help you to achieve the desired result, and in the context of the career plans, career phases are the ways of career aims achievement.

Career planning should be applied to people, who aspire to success, self-realization, respect and power. The organization should provide employees with the information about the requirements for the leading position.

Informal consulting is the evaluation of the employee`s work by the management and information about further plans for his career. The organization often provides consulting of the staff, which skills and interests should be evaluated. Consulting can fully correspond to the interests of staff that can be explained by the fact that such care is an important factor of determination of the career effectiveness. In this case, organizational career consulting is, first of all, the service for the employees.

Formal consulting is a specialized, documental evaluation of employee`s skills and suggestion of options for the career development, possibly in other organizations and regions.

Management of employees` careers in the organization has the following stages:

- 1) *preliminary specialization for entering and leaving* - measures to ensure the entry of an individual in the organization (a dedication, an oath);
- 2) *providing of reliable information*. The individual always tries to get two types of information: to know what the work in this organization is, and whether he corresponds to this work;
- 3) *coordination* — occurs after personality`s entrance to the organization: establishing of a new

interpersonal relationships, studying of the tasks, features of the work, finding out the role in the organization, and evaluation of success in the work;

- 4) *role-play management* — socialized activity, that occurs during the stable work of the individual.

So, we can conclude that: a career is based on the desire and type of personality, career can be evaluated, it has its phases, it should be planned, career of others can and should be controlled by different programs.

Program of career management in the organization. There is a wide variety of programs for searching and promotion of capable candidates:

- 1) *replenishment program* is focused on the new workers. More information about the work and less about the organizations;
- 2) *horizontal movement*. An employee, who has reached a certain level, transferred to another unit on the same level. Training of adjacent knowledge allows to grow and move to the next level;
- 3) *movement downwards*. Usually associated with the failure. However, it is assumed, for example, in such cases: the employee agrees not to change residence or the other way round - moving to another area, movement downwards is temporary and initiates a new direction;
- 4) *orientation program* — in the first working days a novice is especially charged and helped to get acquainted;
- 5) *training programs* allow you to search new knowledge and skills, identify perspective employees within the organization;
- 6) *evaluation of effectiveness*. Manager must be constantly provided with information about the work of subordinates and give its evaluation;
- 7) *work, that requires feedback*. You should give enough work to employees, especially newcomers, especially after the difficult process of admission. Unrealized opportunities may lead to negative consequences;
- 8) *a demanding chief*. High demands, high reward, the possibility of assistance and consulting, if there is a feedback, there are interests, new ideas;
- 9) *programs to support families*, realization of special programs to show employees and their families, that the organization remembers them.

Questions for self-check:

1. Give the definition of the person, who makes decisions. What are his characteristics?
2. What are the management decisions and what is their classification?
3. Give the definition of "freedom of manager`s actions" and "restriction of freedom of choice".
4. What are the methods of analysis and interpretation of data?
5. What are the main methods of data collection?
6. What are the conditions of applying of creative methods?
7. Characterize the ways of decision-making in the groups.
8. Give the definitions of "information", "information resources".
9. Explain the dependence of results from the quantity and quality of information.
10. Give the definition of groups. What are their kinds and reasons of formation?
11. Characterize the dependence of group cohesion and effectiveness.
12. What are the main barriers to effective communication?
13. What methods and tools of effective communication do exist?
14. Give the definition of the conflict, what are its types and main reasons?
15. What are the methods of managing conflict situation?

16. Characterize the preparatory stage of negotiations.
17. Explain the role structure of the team for negotiations.
18. What is career and what main characteristics of the person do influence on the career?
19. Describe the stages and phases of the career.

CHAPTER 17. PLANNING OF ENTERPRISE ACTIVITY

Objective: forming of knowledge and skills in planning of enterprise activity, learning the basic principles and methods of planning of production and economic activities.

Subject: relations arising in the process of technical, economical and strategic planning and dispatching of production, business plans developing, strategic forecasting.

Content modules. Enterprise as the object of planning: the role and place of planning in managing the enterprise, objects and subject of planning at the enterprise. Organization of enterprise activity planning. Structure of planners. System of planning at the enterprise: planning principles, forms of planning, enterprise planning system.

Methods and means of planning. Technology of planning in market economy conditions. Normative base of planning: classification of norms and standards, system of economic norms and standards.

Production planning and its providing. Planning of sales. Planning of production programme.

Planning of need for staff. Planning of costs for remuneration of labour. Planning of need for material and technical resources.

Financial planning at enterprise.

Planning of production cost price.

Planning of financial results. Methods of developing a financial plan.

17.1. Structure and system of enterprise activity planning

General characteristic of planning

Planning is a process of setting goals and objectives in prospect, and choosing resources and the best way to reach these goals.

Plan is a system of interdependent tasks united by a common purpose which ensure the objectives of the production system.

Planning unites enterprise units with common purpose, gives all processes unidirectionality and coordination, allowing the most complete and effective use of available resources, and helping to solve various tasks of management fully, quality and timely.

Main principles of planning.

Along with the general principles of management and planning (since the latter is a function of the first) there are specific planning principles, namely:

- 1) *The principle of reasonableness of goals and objectives of the enterprise.* Clearly defined end goals are the starting point for planning. There are five main goals (or groups of goals) at the enterprise:
 - Economic, to provide efficiency of production;
 - In-process, reflecting the functionality of the enterprise;
 - Scientific and technical, to provide scientific and technical progress;
 - Social, ensuring satisfaction of welfare and cultural needs of employees;
 - Environmental, ensuring production of environmentally friendly products with no harmful effects on the environment.
- 2) *The principle of consistency.* It means that planning is an integral system of plans and covers all areas of enterprise activity;
- 3) *The principle of scientific approach.* Requires consideration of the prospects of scientific and technical progress and application of scientifically based standards for progressive use of all resources;
- 4) *The principle of continuity.* Means a parallel combination of current and advanced planning;

- 5) *The principle of a balanced plan.* Shows the quantitative correspondence between related sections and plan performance, between necessary and available resources.

Types of planning

Depending on *the duration of the planned period* there are **perspective** (*long-term* and *medium-term*) and **current** (*short-term*) planning. The duration of the planned period depends on the degree of certainty of enterprise activity conditions, its industry sector, the general economic situation in the country, the reliability of primary information, quality of its analytical processing and so on.

Long-term planning determines the overall strategy of the enterprise, the main areas of its activities. During making of a plan different options to expand production and reduce costs are considered. Changes in the nomenclature of production are forecasted and policy in functional areas is clarified. The result of this plan is the formulation of long-term goals, making of long-term projects and long term policy.

Medium-term planning is, in fact, the detailed strategic plan for the first years of enterprise activity. The line between long- and medium-term plans is very ambiguous and conditional. Medium-term planning takes into account the capabilities of all units, based on their own assessments. A plan for enterprise marketing, a production plan, a plan of work and a financial plan are developed.

Current planning means developing of plans for all levels of management and in all areas of its activity for shorter periods of time (year, semester, quarter, month) and includes the production planning, work plan and salary planning, logistics, cost, income, profitability, etc.

Depending on the **content of the plan decisions** there may be:

- strategic planning;
- tactical planning;
- operational planning;
- business planning.

The content and essence of each plan are considered below.

Methods of planning

Planning of enterprise activities may be achieved by using different methods:

- *normative method*, when targets are based on progressive standards for use of resources;
- *balance method* - the purposeful coordination of the use of resources with sources of their movements throughout the system of interdependent material, financial and labor balances;
- *the method of extrapolation* - enterprise trends found in the past distribute on the future;
- *interpolation method* - the company sets the goal in the future and therefore determines the duration of the planned period and interim targets;
- *factorial method* - based on calculations of the influence of the major factors that cause change of targets;
- *matrix method* - by building models of the relationships between production units and results;
- *economic and mathematical modeling* using computer - developed several variants of the plan, in which individual performance of the most important parts are to be optimized.

Enterprise development strategy

Constant volatility of the market environment has led to the need for a strategic approach to the management system at the enterprise.

Strategy is a comprehensive general plan of actions, which defines the priority problems of the company, its mission, goals and resource allocation for their achievement.

The *purpose* of creating an enterprise development strategy is to identify the main directions for its effective functioning on the basis of the maximum of the existing scientific and technical potential in correlation with the reserves of internal and external environment.

The main *objectives* of the enterprise strategy are:

- choice of effective areas of economic activity that are to be cultivated;
- determination of the volume of capital investments and other resources required for implementation of selected areas of economic activity;
- estimation of efficiency results.

Enterprise strategic plan is formed of the following *sequence*:

1. Forming strategic goals of activity (purpose).
2. Analysis of business environment and market factors (supply, demand, competition).
3. Formulation of general strategies and analysis of strategic alternatives.
4. Estimation of business potential and prospects of the company, their goals adequacy.
5. Development of resource and functional strategies: marketing, scientific activity, manufacturing, organizational changes, as well as financial, social and environmental strategy.
6. Implementation of the plan, control and evaluation of social and economic results.

Enterprise strategic plan consists of the following *sections*: 1) Objectives and directions of activities, 2) Current and long-term goals, 3) General strategy, 4) Functional strategies, 5) Description of the most important programmes, 6) Description of external operations, 7) The volume of investments and resource allocation; 8) The formulation of backup strategies.

When preparing the strategic plan the following information is used: the amount of annual sales according to the groups of goods, annual profit and loss for departments, annual exports and its share of total sales (realization), market share, the annual amount of capital investment, the balance at the end of last year plan, financial plan.

Enterprise strategy is developed for different periods of time depending on the degree of predictability of the future, the duration of the idea implementation period, activity area of the company and level of technical equipment (from 3 up to 10 years).

Tactical planning

Preparation of medium - and short-term plans belongs to tactical planning of the enterprise. Tactical plans are different from the strategic ones due to the development purpose, content, period, areas of influence. Tactical plans detail the strategy ones, but their scope of activity is narrower.

Tactical company's plans consist of the following **major sections**:

- **marketing programme**: marketing plans for major products and the overall plan of the whole enterprise production;
- **producing programme**: tasks of production of specific products in physical and monetary terms (in terms of gross, commodity and sold production) in view of increasing quality and production programme motivation by company efficiency;
- **plan of science and technology development**: actions in creating and development of new products, new techniques and technologies introducing;
- **plan for labor and human resources**: labor productivity growth, the number of personnel by categories, payroll, average wage, balance calculation of additional need for more and employees and sources of support;
- **capital construction plan**: capital investments, building and construction works, technical re-equipment company, commissioning of fixed assets and production facilities;
- **logistics planning**: the needs for production inputs and their sources of supply, as well as calculations to reduce the unit costs of raw materials, fuel and energy;

- **planning costs, profits and profitability:** cost of major products, gross, commodity and sold, cost of production, revenue and profitability according to the type of activity and at the whole enterprise;
- **financial plan:** the need for own current assets and tasks of accelerating their turnover, the balance of revenues and expenses; relationship with the budget, credit relations;
- **social development plan for staff:** measures to improve working conditions, recreation and everyday life of employees;
- **plan of actions for nature protection and sustainable use of natural resources** includes the following areas: protection and rational use of water resources, protection of air quality, protection and rational use of mineral resources.

Essential features of the tactical plan also provide distinguishing of certain indicators, which help to define routine tasks, and evaluate the degree of their performance at all the enterprise.

Indicators used in planning fall into:

- *according to the economic content* - natural and value;
- *according to the economic purpose* - quantitative and qualitative (productivity, capital productivity, materials consumption);
- *according to the method of subject characteristic* - absolute (income) and relative (profitability).

Operational planning

The final stage in the planning of the company activity is operational planning of production.

Operational planning is a detailed development of plans of the enterprise and its units.

The peculiarity of operational planning is that targets development for production units is combined with the organization of their implementation. Operational planning consists of scheduling and dispatching.

Scheduling is detailing of the current enterprise plan and delivering objectives to each department, division, section, team worker. Plans and schedules are made for a month, ten days, day shift, and sometimes hourly.

Dispatching provides:

- continuous control over the production process and operational troubleshooting, and deviations that arise;
- the organization of delivery of raw materials, semis and instruments to workplaces; export of ready products and waste; production control for functionality; supply of energy, fuel, compressed air and organization of quality control.

Tasks of operational planning:

- implementation of production activities plan (production of planned goods in the planned time) and rhythmic work of all divisions;
- establishing the optimal conditions at the enterprise to facilitate the most efficient and full use of equipment and labor;
- maximum shortening of the production cycle duration and the volume of work in progress.

Content of operational and production planning depends on the type of production.

Business plan of the enterprise

Business plan is a comprehensive planning document of business activity, which enlists measures for implementation of business ideas for getting profit.

Business plan allows to cover the range of enterprise problems in the process of implementation of its goals in a changing, uncertain and competitive economic environment. It

helps to identify and provide ways to solve them. It is aimed at achieving success, mainly in financial and economic activity.

Business plan as a strategic one, covers a long period of time (3-5 years).

The business plan is the basis of business proposals in negotiations with potential partners and potential investors. It sets out some requirements for the design, form, content and structure. It must be presented in the form that allows a concerned person to get a clear idea of the business and prospects of their participation.

Business plan is developed for:

- technical and economic reasonableness of creating and operating an enterprise, as it enables the entrepreneur to describe the prospects of his company development (what kind of a product to sell, of what quality, in what quantity and at what price to sell);
- attracting foreign investors, including foreign ones, because it allows investors to assess the feasibility of investments in specific production, interest them to cooperate with this company;
- privatization of the company in order to study its feasibility proposals.

The structure and content of business plan is not strictly regulated, but one can suggest the following business plan model: summary (a short business plan), the location of the enterprise; purpose of activity; the description of the activity; characteristics of goods (services), evaluation of market, competition and competitive advantage, foreign trade, marketing strategy, sales forecasting, product portfolio and technical plan, plan of production, business management, the description of personnel, logistics, risk assessment, financial plan, effectiveness of the project.

17.2. Sales planning

Aims and objectives of the sales plan.

Sales planning is a process of determining the volume of output due to product mix and range in the planned period based on the analysis of consumer needs, market and competitive products.

The purpose of planning is the timely rendering of range of goods and services to consumers that would meet the overall production profile of the enterprise and perhaps more fully meet their needs.

The main **objectives** of planning sales include the following:

- determining of the needs of consumers, both existing and prospective;
- critical assessment of enterprise, which is made from the consumer's point of view;
- evaluation of competing products by various indicators of competitiveness;
- determination of the optimal product mix (excluding the unprofitable products and the development of other areas of production);
- exploring the possibilities of new goods production and upgrading of products that are already produced;
- forecasting potential sales of products, pricing, cost and profitability.

Solving of these problems at the enterprise should be executed in the *marketing department*.

Tactical planning begins from determination of sales volume. Production programme planning and logistics planning are based on the sales plan. For its sustainable development the enterprise should carefully anticipate market needs and plan future sales for at least 2-3 years.

Sales planning is performed in **5 stages**:

Stage 1: Research of market conditions

1.1 Analysis of sales for the previous period

2.1 Market segmentation

3.1 Choice of target market

4.1 Forecast of market development.

Stage 2: Range planning

2.1 Formation of product mix

2.2 Planning of new products development

Stage 3: Evaluation of competitiveness of goods

Stage 4: Planning of prices

Stage 5: Forecasting of sales

Research of market conditions

Research of market conditions in the planning process begins with **analysis of sales in the previous period**. The *main objectives* of this analysis is to search for reserves of satisfaction for customers and clients, increase sales of products using the highest possible capacities of the enterprise, material and human resources and improve production and economic activity.

In the process of analysis of sales the following **parameters** are calculated and analyzed.

1. *The absolute increase (decrease) in sales* in physical and value terms compared to the plan and the previous period. The difference between sales made in the analyzed period and plans, and sales in the previous (base) period is to be found.
2. *Changes in nomenclature (range) of products*. It is calculated as the change in the ratio of the specific name products in total sales volume in the reporting period in comparison with similar performance plan of the base period. The calculation can be performed in natural and value terms.
3. *Individual index of physical volume of sales*. It is determined as ratio of this type of product sold during the reporting period, to the number of products sold in the base period and the plan in natural units.
4. *Unsold products* at the end of the analyzed period (year, quarter, month).
5. *Profitability of sales*. It is determined as the ratio of planned and actually received during the time frame for the planned profit or actual total cost of sales.

Analyzing the sales volume it is important not only to establish the quantitative value of the considered parameters, but also to identify causal relationships, to estimate the impact of various factors on sales efficiency.

Market segmentation is necessary for studying the needs of particular customers. A *segment* is a groups of consumers found in a special way. Segmentation allows to meet the needs of customers in a variety of goods and provides saving costs on production and sales, increases competitiveness of enterprise, can reduce or avoid the competition by moving to the unbroken segment of the market that ultimately determines the quality planning decisions.

A milestone in sales planning is **choosing the target market**.

The algorithm of the target market selection in the process of sales planning includes the following stages:

- identification of potential market segment (potential sales);
- assessment of availability and materiality of market segment;
- the possibility of market development.

Forecasting of market development means to determine the conditions under which the most complete satisfaction of consumer demand in the goods of this company is provided and the preconditions for effective marketing of industrial products are created.

Certain market conditions are characterized by supply and demand for products of this type and level and the ratio of prices. Therefore, the primary object of analysis is the current status of production, supply and demand, inventory, trade conditions and prices.

Planning of range. Assessment of goods competitiveness

Correspondence between range of products and users' needs is an important factor determining the level of profitability and sales.

Nomenclature is meant to be the list of products or services that are provided. The **range** is required for production specification into species, types and brands.

Assortment item is a particular model, brand or product size, which is sold by the enterprise. A set of interrelated goods is called an assortment group. Nomenclature or product assortment includes all assortment groups offered for sale.

When planning the range or product assortment can be characterized by: **width** (based on the number of assortment groups or nomenclature of positions) **depth** (based on the number of items in every product groups), **comparability** (based on the relationships between assortment groups in terms of commonality of final consumption, distribution channels, consumers' price range).

Wide assortment in planning allows to focus on the different requirements of consumers and stimulate shopping in one place.

Deep assortment can meet the needs of different market segments in purchasing a product, maximize use of space in trade outlets, prevent the emergence of competitors, offer a range of prices and stimulate support of dealers.

Comparability. Usually comparable assortment is easier for planning than incomparable. It allows the company to specialize in a manufacturing area and customer service and ensures stable relationship in the sales channels. However, excessive specialization and concentration may make the company vulnerable to threats from external environment and the fluctuations of sales.

Range planning is based on *product life cycle*. Each product has its life cycle, the nature and duration of which depends on the set of factors and conditions.

Product life cycle consists of two periods: *development of production* and *market period*. Market period during the life cycle of products consists of four phases:

- implementation phase;
- growth phase;
- phase of maturity;
- phase of saturation and decline.

Implementation phase of the product in the market is the time of appearing and distribution of goods in the market. The phase is characterized by slow growth of sales of new products. During this phase the company often has small amounts of damage through the sale of goods and significant cost to organize the distribution of goods and stimulate their sales.

Phase of growth is a period of speedy increase of new goods sales. Increasing production leads to lower costs and increases profits.

Phase of maturity is the stage where one can see a slowdown in product sales. The slowdown leads to accumulation of unsold stocks and linking current assets. This leads to lower prices, increasing spending on advertising.

Phase of saturation and decline is a period when certain groups of customers stop buying the product and prefer other modifications of product or new products. Sales are falling rapidly and the product is removed from production. The fall in demand is a result of scientific and technological changes in the industry, changes in inventory demand, increased competition, both domestic and foreign manufacturers.

The basic *idea* of planning the assortment is as follows: the emergence of different models of products parameters series on the market should be planned in such a sequence that sales and profit would remain relatively constant.

Competitiveness is the comprehensive description of goods, which determines their benefits on the market compared to similar products-competitors. Competitiveness is relative. Under the influence of different factors (technical and scientific progress, the growing needs of consumers) the competitiveness of a particular product continuously decreases, that should be considered in its planning. Therefore, products that appear on the market are to have “**stock**” **competitiveness**. The longer the product life cycle is, the greater “stock” competitiveness it must have.

When planning and evaluation of competitiveness a system of *qualitative* and *economic* indicators is used.

Qualitative indicators of competitiveness characterize consumer qualities and scientific and technological level of the product. They are divided into *classification* and *evaluation*.

Classification parameters characterize product’s belonging to certain classification groups and determine the purpose, scope and conditions of using this product.

Evaluation parameters characterize the quality of the goods. They are used for standardization of quality requirements and comparing of different samples of goods belonging to one class due to classification indicators.

Economic indicators of competitiveness characterize overall consumer spending to meet his needs through this product. That forms the *price of consumption*.

Price of consumption includes the cost for purchasing a product (buying, leasing) and operating costs during the product lifetime (repair, maintenance of energy supply).

Price of consumption is a crucial reason for the consumer to buy the product and the main indicator of competitiveness. The structure of price of consumption varies depending on the product peculiarities. Calculations indicate that the costs spent in the process of consumption for many kinds of products greatly exceed the selling price. Thus, in the price of consumption of a refrigerator the latter is only 10%, cars - an average of 15%, tractors - 19%.

Planning of prices

Price is an important factor determining sales and profit from sales. Therefore, planning the sales includes the phase of **prices planning**.

In setting prices the company should strive for such their level that would provide the maximum amount of income at the optimum volume of output and the achieved level of production costs.

Depending on the degree of government involvement in price regulation three types can be used:

- **fixed price** - solid, state-determined prices. The enterprise may not change them;
- **regulated prices** - prices at which the state sets the maximum or minimum level. The company is not allowed to go beyond them;
- **free prices** - the company establishes the price level by itself, for its own reasons, and demand for products.

Depending on the serviced turnover the prices are divided into:

- **selling price** of the company - the price at which the company sells its products to consumers. It includes costs of production and sale of products (full cost), profit, VAT and excise;
- **wholesale price** - the price at which wholesale supply mediators sell goods to the trade network and other users. Wholesale price consists of selling price and marketing margins of wholesale

companies, that is to cover their costs for promoting products to consumers and ensure profitable operation;

- **retail price** - the price at which retail sales companies sell products to people and firms. Retail price includes the wholesale (sale) price and sales allowances of retail firms.

Depending on the degree of seller's participation in reimbursing the costs for products transporting the following types of sales and wholesale prices are distinguished: the price "Franco – departure station", the price "Franco – destination station", etc.

"Franco" is the place and time of transfer of goods ownership.

The price "Franco – departure station" includes seller's costs only for transport to the station of departure and uploading it to the vehicle. He reimburses these costs in the price of goods, and all subsequent costs of carriage are borne by the buyer.

The price "Franco – destination station" includes the cost of transporting cargo to the station of consumer goods. The latter bears costs only for shipping of goods from cars or ships transporting cargo to the storage.

When planning the prices of products the following basic methods can be used in the process of substantiation of sales:

- based on costs;
- with a focus on competition level;
- with a focus on demand;
- parametric methods.

The method of setting price on the basis of costs for production and sales is the simplest one and most commonly practiced in domestic pricing. It means that the price is formed by adding extra charges to cost of goods. The **advantages** of this method are: firstly, costs are the objective part of the price, because they can be reliably determined in contrast to such factors as demand, competition, etc., and secondly, the method reduces price competition, because it allows to set optimal rather than maximum prices. The main **disadvantage** of this method is that it directs the enterprise to the maximum possible production, which provides minimum cost and limited range, but not satisfaction of consumers' demand.

The method of pricing with a focus on competition. The basis of this method is the fact that the price can not be directly dependent on cost, and the latter can vary according to the conditions that exist in the market. But this does not mean that all costs are ignored. Their level is to be considered when deciding whether to release a new product, the proposed sale price of which is based depending on market conditions. Companies that follow this method, change prices for their products only when their competitors change the prices too.

The method of pricing with a focus on demand. In this case the price level is placed in accordance with the demand for this product. The basis for this method of pricing is the need to consider the law of demand and price elasticity. Pricing of goods is made taking into account the peculiarities of the demand curve, which reflects the relationship that has developed in a particular market between prices and demand for goods.

The basis of the **parametric pricing methods** is the dependence of prices on various parameters of the product. These methods are widely used for pricing of various models within the parameter product range. The price of the base model is calculated using the method based on cost, or by other methods, and prices for a number of parametric models are calculated using various factors that reflect the relationship between the price of the product and its parameters.

17.3. Planning of production programme

The content and order of development of the production plan

The company production programme or plan of production and sales is an important section of the current plan.

The **plan of production** determines the amount of output of appropriate nomenclature and range in the planned period according to the sales plan in natural and value terms.

The production programme consists of two main **sections**:

- 1) plan of production in natural terms;
- 2) a plan of production in value terms.

The main objective of the plan is to create on a stage of production the conditions for obtaining the maximum profit at the expense of optimal output of product with the best usage of resources.

The **sequence** of plan development is as follows:

- 1) the range and assortment of products, the need for it and the supply (stock of orders and commercial contracts for certain types of products, procurement) are determined;
- 2) according to the amount of the volume of deliveries the volume of output in natural terms is determined;
- 3) the output volume is reasoned by production capacity;
- 4) according to the nomenclature groups the total production in value terms is calculated.

Indicators of the plan:

- *natural* (pieces, tons, metres, etc.) - only for determining the volume of a homogeneous product;
- *conditionally natural* allow to consider all types of products as one type (conventional metres, conventional tons, etc.). When interpreting they are used by labor intensive etc.;
- *price* (UAH);
- *labor* - determine the overall complexity of the program in the normative (norm-hours) and actual (man-hours) labor input.

Planning of production programme in natural terms.

- 1) Nomenclature, range and scope of supply is determined by a portfolio of orders and market analysis.
- 2) The scope of supply determines the planned production volume:

$$N_{npj} = N_{noj} + N_{c.k.j} + N_{c.n.j}$$

where N_{npj} – is the output of the j-type of production in natural terms;

N_{noj} – deliveries of the j-type product;

$N_{c.n.j}$, $N_{c.k.j}$ – reserves of j-type product at stock at the beginning and end of plan period.

Reserves of ready goods at the end of the planned period are determined by their actual values at the beginning of the plan (end of report) period by the formula:

$$N_{c.k.j} = \frac{N_{noj} \cdot T_{з\delta epj}}{D}$$

where $T_{з\delta epj}$ – is the average shelf life of the i-type of products in stock, (in days);

D – the duration of the planned period.

In the case of production with the inevitable loss of products (technological inevitable lack) the output in physical terms is corrected by the factor of these losses (β) by the formula:

$$N_{npj}^{\sigma} = N_{npj} \cdot (1 + \beta)$$

If products have high demand and limited opportunities for their release, the calculations begin with the maximum amount of production output that is the base for determining of scope of supplies of supply, i.e.:

$$N_{noj} = N_{npj} + N_{c.u.j} + N_{c.k.j}$$

3) the planned output of certain types of products is determined by production capacity.

Planning of production programme in value terms.

There are such generalizing plan indicators as: value parameters of commodity, sold, gross and net production.

Commodity products in general include the price of production that will be released in the planned period and prepared for selling.

In commercial products are **included**:

- ready goods, spare parts, semi-finished products of their production and auxiliary goods that are sold on the side;
- works of industrial nature, executed on the side and for non-industrial divisions of the company;
- complete overhaul and modernization of equipment carried by employees of the company;
- packaging, not included in the wholesale price of the product;
- works of industrial character connected with the development and introduction of new technology;
- capital construction services;
- installation works performed by regular employees;
- other products.

Not included in commercial products:

- company vehicles service;
- complete overhaul of buildings and constructions;
- waste sold on the side;
- works to eliminate product defects discovered after delivery to the customer;
- the value of construction work performed on the side;
- researches, not formalized with the customer;
- release of steam and electricity received from the outside.

It is calculated on the basis of a plan of production in natural terms:

$$III = \sum_{i=1}^n N_{npi} \times U_i + P$$

where III – is the volume of output;

N_{npi} – number of types of products produced in the planned period;

U_i – wholesale price of the i -type product unit;

P – cost of labor and services on the side;

n – number of products manufactured by the company.

Products sold is a commodity product that is shipped to the consumer, and paid by money transfer on the company account or that is expected to be paid. According to the content the

commodity and sold production are the same. Quantitatively commodity and sold products differ on the value of unsold remains at the beginning and end of the plan period:

$$P\Pi = T\Pi + (\Pi_{c.n} - \Pi_{c.k.}) + (\Pi_{h.n} - \Pi_{h.k.})$$

where $(\Pi_{c.n} - \Pi_{c.k.})$ – is the stock of finished goods is the monetary value on stock on the beginning and end of plan period;

$(\Pi_{h.n} - \Pi_{h.k.})$ – cost of goods shipped to customers but not paid at the beginning and end of the plan period.

Gross production - the cost of all industrial output regardless of its degree of readiness.

$$B\Pi = T\Pi + (H3\Pi_{\kappa} - H3\Pi_{n.}) + (O_{c.k.} - O_{c.n.}) + M_{3ak}$$

where $(H3\Pi_{\kappa} - H3\Pi_{n.})$ – remains of unfinished production in value terms at the end and beginning of the plan period;

$(O_{c.k.} - O_{c.n.})$ – the remains of special technological equipment;

M_{3ak} – cost of raw materials and customers materials.

Gross production is calculated instead of index of commodity production if the products have long production cycles.

When calculating the gross production in the whole industry there is a so-called "recurrent account" (double account), because intermediate products are considered both independently and as the part of the product to which it is included as its component.

Net production is the most objective indicator reflecting the value formed at the enterprise.

$$\Psi\Pi = T\Pi - (M + A)$$

Where M – material costs for the establishment of production;

A – depreciation of fixed assets, transferred to the cost of commodity production.

Net activities can also be calculated as the sum of main and additional wages of employees and profit.

Net production generates an amount of national income of society that is the total amount of net income generated by all industries.

Functions of different indicators of output:

- *Products sold* – shows the amount of product that came in consumption; is used to calculate profits and analyze obligations of supply;
- *Commodity (gross) production* – reflects the amount of manufactured products; is used to analyze the cost of 1 UAH of commodity products, dynamics and structure of production, materials consumption of products;
- *Clean production* – reflects the amount of company work; is used to calculate labor productivity and capital productivity.

Gross and in-plant turnover

To characterize the production volume of the plant the indicators of gross and in-plant turnovers are used.

Gross turnover (BO) is a gross production volume regardless of whether it is used within the enterprise or outside of it.

Gross turnover **includes**:

- all finished products;
- production, made the main, auxiliary and service shops of the plant;

- mutual service of shops;
- changes of remains of work in progress.

In-plant turnover (B3O) - the sum of products and services used within the plant. In-plant turnover is the difference between gross sales and gross output.

$$B3O = BO - BII$$

In-plant turnover ***includes***:

- the cost of company semi-finished products for industrial and commercial business objectives;
- the cost of spent tool and all kinds of energy of own making;
- services of factory transport and repair shops.

17.4. Planning of production capacity

The definition of "production capacity"

General formulation of ***production capacity*** is the estimated maximum possible amount of output per unit of time.

Production capacity is the highest annually (daily, alternating) possible production of the prescribed nomenclature, range and quality with full load of equipment and production space, progressive technology and manufacturing organization.

The enterprise always strives to search reserves for continuous increasing and improving of usage of production capacity.

Every company must pay constant attention to improving the efficiency of production capacity, its technical and technological level. In this regard, one of the main tasks of production management at the enterprise is to identify factors that determine its production capacity and mobilization of available reserves.

It is important to differentiate such things as "the value of production capacity" and "degree of usage of production capacity".

Classification of ***factors affecting the value of capacity*** is divided into two groups.

1. Factors affecting the expansion of scope of work:

- number of technological equipment and production areas;
- level of consistency of equipment productivity and capacity of different workplaces;
- mode of operation of the enterprise.

2. Factors affecting the increasing of productivity of technological equipment:

- technical level of equipment;
- improving the quality of raw materials (the higher the quality of billets or semi-finished products, the less time is needed to machine them);
- introduction of progressive technologies (intensifies and accelerates the production process);
- training of workers, strengthening of discipline, motivation;
- level of excellence of product design, making, (simpler construction scheme of product lowers complexity and increases products output).

Factors that influence the value of production capacity are connected with all major elements of the production process - the means and objects of work and work itself. The peculiarity of these factors is that they need substantial investment for the implementation of planned measures.

Factors affecting the degree of usage of production capacity are divided into:

- *external* (demand for products, competitors activity, the degree of workforce);
- *internal* (improvement of production, labor and management, motivation, discipline).

Related activities are aimed mainly at the use of reserves, have organizational nature and do not require large capital investments in primary production.

Types of production capacity

Due to the fact that production capacity is not a constant value and can significantly vary depending on the product range, its labor intensity of production and other factors, the parameters of incoming, outgoing and average capacity are defined for comparing planned and basic indicators and analysis of its dynamics.

The **input** capacity is the capacity of the plant at the beginning of the year, based on existing equipment. The **output** capacity of the plant is defined at the end of the plan period taking into account retirements and input of power at the expense of major repairs, organizational and technical measures for the modernization of equipment.

$$B\Pi_{\text{out}} = B\Pi_{\text{ex}} + B\Pi_{\text{og}} - B\Pi_{\text{out}}$$

where $B\Pi_{\text{ex}}$ – input production capacity;

$B\Pi_{\text{og}}$ – production capacity that is introduced;

$B\Pi_{\text{out}}$ – production capacity deduced for planning period.

For routine calculations the indicator of average annual productivity is used.

Average annual production capacity is calculated by the formula:

$$B\Pi_{\text{cep}} = B\Pi_{\text{ex}} + B\Pi_{\text{og}}(r_1/12) - B\Pi_{\text{out}}((12-r_2)/12)$$

where $r_1; r_2$ – is a number of months of operation of relevant equipment groups.

Production capacity is determined in the same units of measure, which are used for planning and counting of production (sometimes in units of measuring the amount of raw material that is processed).

Method of calculation of production capacity in different types of production

Methods of calculating production capacity differ in different types of productions, although the sequence and principles are the same.

Production capacity is determined by the capacity of the leading departments, divisions, current lines, machines (units) including measures to eliminate “bottlenecks” and provide possible cooperation of production. There are *leading* production units of the enterprise that perform the main technological processes (operations) and are critical to ensure production of relevant products.

Calculation of maximum production capacity is based on the following **information**:

- the range and assortment of industrial programme;
- labor intensity of each type production;
- a list of available equipment;
- calculation of the planned fund of useful equipment work;
- information on the planned measures for increasing production capacity (mechanization, automation, equipment upgrading, increasing the variability of work, the introduction of scientific organization of work).

All equipment is included in the calculation of production capacity. Mothballed equipment and unused production area are not taken into account during the calculation of production capacity.

In calculating of production capacity the equipment time fund is determined.

There are calendar, regime (nominal), and effective (useful) time funds of the equipment:

Calendar time fund - the longest time of equipment operating determined by the number of working days in the planned year, multiplied by 24 hours

$$\Phi_{\text{кал}} = 365 \cdot 24 = 8760 \text{ hours}$$

It is accepted only for companies with a continuous character of production.

Mode (nominal) time fund depends on the mode of enterprise operation.

$$\Phi_{pex} = [(\bar{D}_p - \bar{D}_e - \bar{D}_c) \cdot q - t_n \cdot \bar{D}'_n] \cdot S$$

where \bar{D}_n, \bar{D}_c – the number of weekends and holidays that do not match the weekends;

q – duration of working shift, hours;

t_n – reducing of duration of working shift on holidays, hours;

\bar{D}'_n – number of days before holidays with reduced working shift;

S – number of shifts.

Effective time fund - the maximum possible in this mode of shifting, taking into account the amount of time to repair, adjust and retool the equipment during the planned period:

$$\Phi_{ef} = \Phi_{pex} (1 - \alpha/100)$$

where α – the percentage loss of working time for routine repairs.

Methods of calculating production capacity of a department or the whole enterprise depend on the type of production.

In **mass manufacturing** production capacity is calculated for individual workplaces or production lines:

$$B\Pi_{mac} = \frac{n_{yc} \cdot \Phi_{ef}}{t} = n_{yc} \cdot \Phi_{ef} \cdot p$$

where n_{yc} – is the number of pieces of equipment in the working area (line);

t – labor intensity of production manufacturing for this group of equipment (the standard time of making some product with a leading group of equipment);

p – the performance of one machine;

Φ_{ef} – annual effective time fund of the equipment.

In **serial production** each workspace has a number of component operations. A typical product-representative is used as a measure of production capacity (chosen as the most mass produced). Basic product combines a number of products with similar technological features into one group. Base product is obtained by expanding of range, combining different name products into groups of design and technological similarities. These products are picked up so that the structure of their labor intensity would be close to the structure of labor intensity of a product-representative and that the latter would have the biggest output and overall labor intensity.

In **small-scale and unit production**, where each workplace is used for processing a large number of parts, the big calculations are performed during preparing the plan, i.e., calculations of workload and capacity of equipment. The amount of work provided by the production programme for each group of machines is compared with the time fund.

Scope of work (Q) provided with production program for each group of equipment (equipment loading) is determined by the formula:

$$Q = \sum_{i=1}^n \frac{N_i \cdot t_i}{K_{e.n.}}$$

where N_i – number of i-type products according to the production programme, pieces;

t_i – labor intensity of works work on this group of equipment; machine-hours;

$K_{e.n.}$ – the average ratio of time norms;

n – number of items of products.

Capacity:

$$\Pi = n_{yc} \cdot \Phi_{ef}$$

Next, determine the load factor:

$$K_{3,yc} = Q / \Pi$$

At $K_{3,yc} = 1$ the equipment used in full.

At $K_{3,yc} < 1$ the equipment is underutilized.

At $K_{3,yc} > 1$ the equipment is overloaded.

In some industries production capacity is determined by production areas (assembling, molding, casting shops):

$$B\Pi_{30} = \frac{F_{kop} \cdot \Phi_{pej}}{F_{od} \cdot T_{kal}}$$

where F_{kop} – useful area of workshop area, m²;

F_{od} – space needed to build one piece of product, m²/piece;

T_{kal} – calendar duration of one phase of assembling one piece of products, hours.

Indicators of usage of production capacity

Analysis of capacity can be based on a balance of production capacity. On the basis of the balance and during its designing the following is determined:

- the possible production programme;
- degree of supply of various programmes and activities with production capacity;
- coefficient of usage of production capacity and fixed assets;
- internal economic imbalances and the possibility of their removal;
- investment to increase the capacity and eliminate “bottlenecks”;
- the need for equipment.

Indicators of usage of production capacity:

1. Coefficient of development of designed capacity K_n :

$$K_n = B / B\Pi_n$$

where B – actual production under the project;

$B\Pi_n$ – designed capacity.

2. Coefficient of the average annual production capacity:

$$K_e = B / B\Pi_{cep}$$

3. Coefficient of extensive loading of equipment:

$$K_{e.3.} = \Phi_{\phi} / \Phi_n$$

where Φ_{ϕ} – actual time of equipment operation;

Φ_n – planned, effective time fund.

4. Coefficient of intensive load of equipment:

$$K_{i.3.} = B_{\phi} / B_n$$

where B_{ϕ} – actual volume of output per unit of time;

B_n – planned norm of product manufacturing for the same period.

5. Integral coefficient of equipment loading:

$$K_{im} = K_{e.3.} \cdot K_{i.3.}$$

It provides a total description of the level of equipment operation both in performance and time.

Also the coefficients of the equipment operation variability, efficiency and usage of production capacity are calculated.

17.5. Planning of work and wages

Contents of plan of work and wages

Plan of work and salary consists of:

- Plan of raising productivity;
- Plan of the number of workers and certain categories of workers;
- Plan of salaries;
- Plan of training and retraining of personnel.

Calculation of targets is based on analysis of the plan of the year. Benchmark for the targets is the task of the strategic plan for enterprise development.

Basic principles of planning work and wages:

1. Advance of the growth of labor productivity over growth of wages;
2. Compliance with optimal ratios of wages of certain categories of employees in accordance with the quantity and quality of their work;
3. Ensuring the optimum ratio of personnel involved in manufacturing, servicing, administration;
4. Provision of qualified managers according to the requirements of production and enhance their skills.

Baseline data for planning of labor and wages are:

- production program of the company;
- plan for technical and organizational development that includes measures to increase productivity;
- progressive standard cost of labor;
- norms of payment.

Planning of number of personnel

When planning personnel distinguish secret, account, the average ones.

Secret personnel are a number of workers who must be in the workplace to ensure the production process every day.

Account personnel are all permanent, temporary, seasonal employees, including the tourist and suffering.

Average personnel is account staff, averaged over a certain period. It is used in planning.

The total number of industrial personnel of the company is determined by calculating the conditional drawdown in the implementation plan period a number of technical measures and institutional nature. Planning of number of industrial personnel with the application of this approach is carried out in several stages.

1. The reference number of industrial personnel in the planned period (relative strength) needed to support the production program is being found:

$$U_s = U_\phi \cdot B_n / 100 ,$$

where U_ϕ – is actual quantity of personnel in base period, man.;

B_n – is volume of production in planning period, absolute %.

2. The number of change under the influence of technical and economic factors that impact on improving productivity (ΔU_i) is being found.

3. Planned staffing (Q_n) is defined as the difference between the original number of personnel and conditional drawdown is achieved by implementing a number of technical measures and institutional nature.

$$Q_n = Q_0 - \sum \Delta Q_i$$

4. The estimation of productivity growth (ΔPP) caused by drawdown is being made.

$$\Delta PP = \frac{\Delta Q \cdot 100}{Q_0 - \Delta Q}$$

Increase of productivity is an effective instrument for reducing or stabilizing the number of personnel.

In addition to planning the number of industrial personnel in general, planning of its individual categories is also very important.

Industrial production personnel includes the following categories: 1) workers (main and auxiliary); 2) experts; 3) employees; 4) heads; 5) junior personnel; 6) health workers; 7) students.

Planning the number of certain categories of industrial personnel has its peculiarities.

Determination of the number of main workers (Q_{och}).

Production workers is a category of personnel directly engaged in the implementation of processes for manufacturing products.

Planned number of main workers engaged in standardized work can be defined in two ways:

- 1) after complexity in the production program (T_{en}):

$$Q_{och} = T_{en} / (\Phi_{kop} \cdot K_{e.h.}),$$

where Φ_{kop} – profitable fund of working time of one industrial worker per year;

$K_{e.h.}$ – fulfilment of production plan factor.

$$T_{en} = \sum_{i=1}^n \sum_{j=1}^m N_i \cdot t_{ij},$$

where n – number of names of products in its production, units.;

m – number of operations necessary for producing the i -th product name;

N_i – industrial application products on i -names, units.;

t_{ij} – j -and labor-intensive operations for the production of the i -th unit of product, standards-hours.

- 2) in the amount of work and production standard (this approach is used when it is impossible to determine the labour-intensiveness the production program):

$$Q_{och} = V / H_0,$$

where V – Total volume of works planned for the period;

H_0 – Planned production standard per worker.

The number of main workers engaged in irregular work is determined by service standards:

$$Q_{och} = \frac{M \cdot 3}{H_{os}} \cdot K_H,$$

where M – number of service facilities (equipment units, jobs, etc.);

3 – number of shifts;

K_H – The coefficient that takes into account projected absenteeism.

$$K_H = 1 + \beta / 100,$$

where β – planned interest absence from work.

Determination of the number of auxiliary workers (Q_{don}).

The number of auxiliary workers similarly calculated as the number of main workers (according to labor intensiveness of work, standards and norms of service) if the subject of rationing, as well as work whose volume can be set depending on the number of service vehicles, machinery and parts.

The number of auxiliary workers, for which it is impossible to set the scope of works and provision of service is calculated at the workplaces.

$$Q_{don} = K_{pm} \cdot S \cdot K_{a.o.}$$

where K_{pm} – is a number of places of work;

S – number of shifts;

$K_{a.o.}$ – factor of bringing the secret number of accounting (taking into account the percentage of absent workers planned to work and calculated similarly to K_n)

Determination of the number of managers, professionals and employees.

Planning the number of managers, professionals and employees has its own characteristics, specific features of production, labor management, labor division and correlation between different professional groups. Number of technical officers and officials is determined by staffing.

Staffing - a company's internal documents outlining the list of posts and number of employees for each of them, which is the company, with defined minimum and maximum salaries

Privatized enterprises when calculating the number of specialists and officials often use the standard method based on application load specifications, maintenance, handling and the number of specialists.

Determination of the number of junior staff is based on:

- Service standards (e.g., the number of cleaners is determined according to standards of service, expressed in square meters);
- Number of jobs subject to variability and scheduled absence from work (lifters, cloakroom workers etc.).

The number of employees is planned, depending on the size of the area protected, number of posts, their mode of operation.

Planning the number of students is held with the number of workers who retire, demand for occupations that occurs, the expansion of production.

After making a plan of all categories of employees, balance work force for a planned year is being prepared. Balance is used to determine the need for additional workers and scheduling training and skills development.

Plan of training and retraining of certain professions is made by human resources department.

Planning salary funds

Plan of salary funds is payroll amount of money needed to pay employees for the work and waste time and amount of payments and payments that are stipulated by state laws and existing bonus system in the planned period. Planned payroll fund consists of basic salary, fund additional salary and other incentive and compensation payments.

Fund of *basic* wages includes wages for the work and spent time: pay for piece-rate and tariff rate surcharge to the tariff rates for professional excellence, awards for high performance in work, the premium for a night and others.

The fund of *additional* salary payments includes payments according to the labor laws, but not related to work performed: extra teenagers vacation pay, severance pay, etc.

The main *tasks* of planning payroll:

- Implementation of the principle of payment for work;
- Retention of everyone in the final results of work;
- Advancing the pace of productivity growth in comparison to growth of average wages.

There are 2 main methods to calculate the payroll : **enlarged** (with specifications) and **of direct calculation** (differentiated).

The essence of the normative method is that the payroll in the planned period formed the base of the payroll and the amount it increases or decreases, which is determined by the standards increased for each percentage increase (decrease) in production volumes by the formula:

$$\Phi 3\Pi_n = \Phi 3\Pi_0 + H \cdot \Delta Q$$

where $\Phi 3\Pi_0$ – standard wage rate per unit of production, UAH

H – payroll company in the base period, UAH;

Q – the planned growth of production (commercial or pure).

Also, the routine payroll can be determined basing on *average wages* and the planned number of workers using the formula:

$$\Phi 3\Pi_n = 3\Pi_c \cdot Q_n$$

where $3\Pi_c$ – average wage per employee in the planned period, UAH;

Q_n – the planned number of employees, personnel.

Differentiated planning payroll conducted is held for industrialized and non-production personnel of all business units, as well as by category, profession, position and qualifications.

When planning the wage bill by category of workers, it depends on the nature of work and forms of remuneration.

Calculation of payroll workers on the *contract* form of remuneration may be carried out in two ways:

- 1) according to piece of retail and planned volume of production:

$$\Phi 3\Pi_{\text{oidp}} = \sum P_i \cdot N_i,$$

where P_i – piece-rate production of one product for the i-th type of planned range (equal to the amount of travel pricing on transactions), UAH / unit;

N_i – production program product of i-th species units.

- 2) on the complexity of the production program T_{en} :

$$\Phi 3\Pi_{\text{oidp}} = C_c \cdot T_{\text{en}},$$

where C_c – is an hour average tariff rate, calculated by the formula:

$$C_c = \sum_{i=1}^r C_i \cdot Y_{pi} / 100,$$

where C_i – hour wage rate workers the i-th digit UAH per hour.;

Y_{pi} – the share of each category of workers in the total, %;

r – the number of discharges of workers in the enterprise.

The wage bill of production workers form the hourly wage is calculated as:

$$\Phi_{3\Pi_{noz}} = C_c \cdot \mathcal{U}_{noz} \cdot \Phi_{kop},$$

where \mathcal{U}_{noz} – is a number of workers to form hourly wage people.;

Φ_{kop} – a useful fund of working hours per worker, hours.

Planning payroll managers and professionals are leaving their surplus numbers, salaries and supplements according to fund the planned work time. Fund salary of salary remuneration system is:

$$\Phi_{3\Pi_o} = O \cdot \mathcal{U}_o \cdot m$$

where O – the average salary of the enterprise;

\mathcal{U}_o – number of employees with remuneration system;

m – number of months in the planning period.

As a result, you decide that the amount of funds salaries of all categories of employees, calculated by direct method shall not exceed the planned wage fund, calculated on base of planned production volumes and the approved standard of education payroll.

When planning the payroll according to the nature of the payments and benefits, these one are distinguished: hourly, daily and monthly payroll.

Hour payroll includes payment of tariff rates and piece-rate and premium for actual hours worked inside the change (subject to surcharge and intensity of work, night work, allowances for professional excellence, premium payments for worker provisions supplement brigadier, the premium for education students).

Daily payroll includes: HR payroll, payment inner shift breaks, premium for overtime work.

Monthly payroll includes: daily payroll and paid breaks during the day (regular pay and training leave, runtime state and public duties, severance pay, travel).

In determining the planned wage fund of workers expect:

- 1) fund direct salaries;
- 2) in extra hours, daily and monthly payroll.

When planning a salary, you need to stay ahead of productivity growth compared with growth of average wages.

17.6. Planning of self cost of industrial products

Goals, objectives and planning the sequence of production costs

Product cost is expressed in monetary costs of the production and sales.

The purpose of planning costs (cost) is to optimize the operating costs of the enterprise, providing the necessary rate of profit growth and profitability based on rational use of money, labor and material resources.

In developing the plan at cost should be solved the following **tasks**:

- The analysis of the cost indices of industrial enterprise as a whole and its separate divisions;
- The opportunities and specified size reduction in the planned production cost in comparison with the previous period;
- Compiled cost main types of products;
- Found inappropriate costs and has developed measures for their elimination;
- Defined return types of products, and production;
- The influence on cost, profit, return on increased spending on developing new products.

Plan on spending the enterprise consists of the following sections:

- 1) calculation of the reduction of production cost due to influence of technical and economic factors;
- 2) cost estimation of products, works and services;
- 3) cost of production.

The general principle of inclusion of certain expenses in cost is that for cost reimbursable expenses, providing playback of all factors of production, other costs are covered from profit or investment.

Unproductive costs associated with industrial activity (waste, shortage, loss of materials, simple, etc.) are also included in the actual cost, and loss and breach of contractual obligations (fines) offset by the profit and etc.

Classification and accounting of production costs

1. By way of one assignment per unit:
 - **direct** can be attributed directly to a specific product or component;
 - **indirect** cannot be directly attributed to a specific product or part, because they are not connected with the production of specific products and production process as a whole: the salary and service management, maintenance and operation of buildings, structures, machines, etc.. When planning the production costs, these costs combine into groups and distributed to various kinds of products indirectly, that is proportional to the wage of production workers or where any other indicator.
2. On the basis of communication with the volume of production costs are divided into:
 - **fixed costs** - costs, the absolute magnitude of the increase (decrease) in output has not significantly changed;
 - **variable costs** - it costs a total of over time depends on the size of the output.In turn, variable costs can be divided into:
 - **proportional costs** - are the costs that vary directly in proportion to output;
 - **Disproportionate costs** - the costs, value of which varies to a greater extent (progressive) than production or slower than output (retrogressive).
3. Based on the degree of uniformity costs are divided into:
 - **element costs** (uniform) - have a common economic sense and are original;
 - **comprehensive costs** - costs, heterogeneous in composition, covering several items of expenditure (costs and operating expenses guild, etc.).

The main of classification is the cost of economic elements and audit.

An economic cost elements are formed according to their economic content. Elements of cost are the same for all branches and on their basis is **cost of production**. It includes: material costs, wages, contributions to social activities, depreciation of fixed assets, other operating costs and other expenses.

Article order cost – these are costs that vary with each functional role in the production process and place. For items of expenditure determine unit costs, i.e. the calculation.

Methods of planning costs

When planning the production cost, the following methods are used:

1. **Factor-specific method**. Its essence is to determine the impact of techno-economic factors on the planned production costs in comparison with the previous year. When planning the cost of this method is used to:
 - Provide equality of indicators of the plan with similar indicators of other periods;
 - the most complete account of the effectiveness of measures to improve production efficiency plan;
 - participation of particular services, departments and production departments in reducing costs.

More details of planning method-specific costs will be considered below.

2. **Estimating method**. It assumes the cost basis of each article with special expenditure. Estimating method allows individual chapters to coordinate tactical plan together and coordinate their plans with the internal economic divisions.

3. **Method of calculating.** This method proved the value of the cost of production unit, works, services or their structural elements.
4. **Legal method.** The level of production costs and selling of goods and services is based on pre-compiled rules and regulations. Dignity standard method of product cost planning is the ability to isolate deviations from current account (current) standards and their causes. This allows you to judge what factors led to changes in costs and time to make better decisions aimed at improving the economic performance of enterprises.

When planning the production costs mentioned methods are used, usually simultaneously, in a complex that allows to solve a series of interrelated tasks of planning costs.

Method of calculation of cost savings on individual factors

Savings from reducing material costs, fuel and energy.

$$E_M = (H_0 - H_1) \cdot \Pi \cdot N_i,$$

where H_0, H_1 – the consumption norms of raw materials, fuel, energy per unit before and after the action;

N_i – number of units of production, producing the event since the end of plan period.

Π – unit price of raw materials, fuel, energy.

Reduction of payroll deductions and plan for social needs by lowering unit labor

$$E_s = \left[(t_0 \cdot \varphi_0 - t_1 \cdot \varphi_1) \left(1 + \frac{\Delta}{100} \right) \left(1 + \frac{\Gamma}{100} \right) \right] \cdot N_i$$

where t_0, t_1 – Labor-intensive manufacturing unit;

φ_0, φ_1 – average hour tariff rate;

Δ – average percentage of extra wages for this category of workers;

Γ – the percentage of deductions for social needs.

Savings or additional costs while increasing product quality

$$E_c = [C - (\Pi + T)] \cdot N_i$$

where C, C_1 – Unit costs before and after quality improvement.

Savings due to changes in production specialization

$$E_c = [C - (\Pi + T)] \cdot N_i$$

where C – Production cost of the product;

Π – Wholesale price for which these products will come from specialized companies;

T – Transport and harvesting costs per unit of product.

Relative economy of conventionally fixed costs as a result of increased production

$$E_y = (C_0 \cdot b \cdot Y_n) / 10000$$

where b – Growth rate of output in the planned year compared to baseline;

C_0 – Cost commodity products base year;

Y_n – Specific weight of conventionally fixed costs in production costs of basic products of the year.

The relative savings in depreciation charges resulting from improved utilization of production capacity

$$E_a = \left(\frac{a_0}{\Pi\Pi_0} - \frac{a_n}{\Pi\Pi_n} \right) \cdot \Pi\Pi_n$$

where a_0, a_n – The amount of depreciation charges in the base years and planned;

III_0, III_n – The commodity output in the base and plan period.

17.7. Planning of the production logistics support

Goals, objectives and content of planning a logistics company

Effective planning and organization of logistics and manufacturing sales largely determines the level of means of production, productivity growth, revenue and profitability.

The aim of developing a plan logistics is to optimize the needs in material and technical resources.

The main **tasks** of logistics support plan are:

- 1) timely and complete satisfaction of needs in material and technical resources, identifying current and prospective needs for materials, raw materials and equipment;
- 2) development of material balances;
- 3) selection of suppliers and support relationships with them;
- 4) providing high quality resources that are supplied;
- 5) minimizing the costs of purchase, delivery and storage of material values;
- 6) determine the optimal timing and size of delivery vehicles parties material resources to be purchased;
- 7) determine the optimal level of reserves of material resources;
- 8) etc.

Basic data to plan the logistics are:

- 1) the planned production volume;
- 2) the volume of work in technical and organizational development, capital construction;
- 3) legal framework including targets for reducing consumption of materials standards.

Logistics Plan is made in physical and value terms per year and with breakdown by quarters.

Demand for inputs is determined by the industry features companies in separate groups:

- a) demand for raw materials;
- b) the demand for fuel and energy;
- c) the need for equipment.

Plan of logistics for the company has in 4 stages:

Stage 1: Calculation of the need for certain types of resources. Manufactured on the basis of baseline consumption and according to the planned production volume.

Stage 2: Analysis of the efficient use of resources. At this point, made corrections to the plan in view of logistical support for the introduction of new technology, changing norms and material costs of raw materials.

Stage 3: Market Research Materials. At this stage market analysis of raw materials, approved vendor solution is made.

Stage 4: Preparation of procurement plan material resources. Balance sheets and inputs and procurement plans are made.

Defining the need for inputs

Needs in material resources must be justified by appropriate calculations for these types of consumption:

- 1) primary production;
- 2) capital construction;
- 3) introduction of new technology;
- 4) repair and maintenance needs;

- 5) The production of technological equipment and tools;
- 6) increase in progress;
- 7) create the necessary inventory.

Consider the definition of requirements and raw materials.

The need for basic production materials (raw materials) in the range () is determined by the formula:

$$M_{\Pi i} = \sum_{j=1}^n H_{ij} \cdot N_{\Pi Pj},$$

where H_{ij} – is a the standard cost of i-th type of material per unit of j-and production;

$N_{\Pi Pj}$ – the planned production volume and j-products;

Depending on which rules are used to distinguish the following payment methods for calculating the need for inputs are used:

- element approach;
- by particular products;
- by analogy
- for the typical representative.

When using the by particular products and element approach norms of the production costs of the unit, details are used.

Method for determining the needs of analogy is that the products which, in the calculation need not cost norms, are equivalent to similar products, which is the standard cost of materials. It should take into account the specific features of the new product, for which the calculation of correction coefficients are introduced:

$$M_{\Pi i} = \sum_{j=1}^n H_{ai} \cdot N_{\Pi Pj} \cdot K_{O\Pi ij}$$

where $M_{\phi i}$ – the standard material cost for a similar product

$N_{\Pi Pj}$ – product registration program in the planned period

$K_{O\Pi ij}$ – a factor that takes into account the peculiarities of the material consumption for production of this product compared to the same.

With a large variety of products and the absence of the specified software release for each position calculation produced material requirements of a typical product or component, the standard cost of material for the production of which is average for a planned family of products or parts is made.

Though in some types of product range not developed norms of the planned period, the need for material resources are calculated by the formula:

$$M_{\Pi i} = M_{\phi i} \cdot I_1 \cdot I_2$$

where $M_{\phi i}$ – the standard material cost for a similar product

I_1 – product registration program in the planned period

I_2 – a factor that takes into account the peculiarities of the material consumption for production of this product compared to the same. Market research material and raw materials.

Market Research Materials involves the collection, processing, analysis and assessment of information about potential suppliers, the range of material resources, the prices of raw materials, fuel, etc.

Factors determining choice of supplier: 1) experience in the market, 2) production capacity, 3) compliance with delivery terms, 4) financial condition, 5) the reputation of the company, 6) share price, 7) quality of resources; 8) business location 9) current discounts, 10) system after sales service.

Optimizing inventory volumes inputs

A part of the annual plan of business in material resources is a need to establish their inventory. Provision of necessary supplies must provide continuous operation of enterprises and accelerate the turnover of circulating assets.

Reserves are established to promote:

1. Consumer Services (availability of stocks - an important factor keeping customers connected with the opportunity to supply products at any time).
2. Flexibility (the ability to quickly jump to other products due to manufacturing inventories to satisfy demand for products that are currently not produced).
3. Of certainty (the more uncertain the market situation, the greater the need to back insurance stocks).
4. Smooth production (the ability to meet demand during periods of maximum sales without increasing production).
5. Profit by price speculation (during inflation can make a profit buying stocks at a lower price and selling them in the future).

Depending on the purpose of reserves **are divided into**: transportation, the current (transitional), Preparatory, insurance, seasonal.

Current stock is designed to ensure continuous production between the two deliveries of materials.

Preparatory stock required for the preparation of materials received for production use.

Reserve stock ensures continuity in cases of deviation from the accepted ranges of supply.

Seasonal stock is created, usually in winter or in cases where supplies are dependent on the season of the year.

Size depends on inventory:

- the size requirements for various types of raw materials;
- freshness of product manufacturing companies and suppliers;
- frequency starting from raw materials in production;
- seasonality of supply of materials;
- the ratio of transit and storage forms of supply;
- the size of transit deliveries.

In economic activities **are divided into** stocks:

- **raw materials**, basic and auxiliary materials, components and other assets that are intended for production, works, services, service production and administrative needs;
- **work in progress** as unfinished processing and assembling parts, components, products and unfinished processes. Work in progress in the business, doing the work and provide services consisting of cost of unfinished works (services) for which the enterprise has not recognized income;
- **finished products**, manufactured in the company, sell it and meet the technical and qualitative characteristics included in the contract or other legal act;
- **goods in the form of tangible assets**, purchased (received), and now kept from further sale;
- **low value items** that are not used more than one year or normal operating cycle if longer than one year.

Creating and storing inventories require considerable expense, and their annual amount exceeds a quarter of the cost of most stocks. It is therefore important to manage inventory to these costs were minimal, and that ensured a level of service and satisfaction, which fosters economic development enterprise.

For problem solving to support optimal inventory material in the enterprise uses the methods of the theory of inventory management. Inventory management - is to set the triggers for the purchase or production of goods to replenish stocks and decide on the number or volume.

17.8. Financial planning at the enterprise

The content and objectives of financial plan

Financial planning is a process of determining the amount of financial resources by sources and the target areas used in accordance with production and marketing of enterprise performance in the planning period. **The aim** is to provide financial planning business activities necessary funding sources.

The **main objectives** of the financial planning business are:

- ensuring the production and investment necessary financial resources;
- a reasonable financial relationships with entities, banks, insurance companies, etc., identifying ways to efficiently invest capital rating rationality of its use;
- identification and mobilization of reserves, increasing profits by efficient use of materials, labor and cash resources;
- control the formation and use of means of payment;
- payments in budget planning.

The key point in the financial planning business is a **financial plan**, which in monetary terms characterizes all sides of production and economic activity, and summarizes the major provisions contained in other sections of the plan of economic and social development plans.

In developing the financial plan of the condition of cash flow and real them, the financial stability of the enterprise and use of inputs.

The financial plan includes:

- plan of revenues and expenditures;
- Plan of payments and receipts;
- balance plan.

The plan of revenues and expenses are usually for 2-3 years, while the first year - in monthly breakdown showing the following indicators: sales, cost of goods and services, and direct operating costs forecast net profit.

The main objective of the plan of receipts and disbursements are synchronized checking receipts and disbursements of funds, i.e. verification of future liquidity.

The plan of receipts and payments should include:

- 1) receipt of funds from all sources, including not only the proceeds from sales, but also funds from the sale of shares and other securities received in debt, proceeds from sale of assets of the firm, etc.;
- 2) payment of interest on the credit;
- 3) cash surplus;
- 4) the costs of expansion (stocks, wages, etc.).

The plan of receipts and payments helps to identify periods when the company perceives a deficit or cash surplus, the size of loans to these periods, direction and timing of the refund.

Equity plan is the third section of the financial plan of the enterprise. Balance - financial document that shows sources of income, the composition and allocation of funds. Balance it clear that the company has liabilities to suppliers and creditors, the balance. The difference (balance assets and liabilities) is evaluating the equity of the enterprise.

Under reasonable financial plan is the basis for working out detailed working budget of the enterprise.

When planning the finance companies often use the balance method, which involves balancing the costs and revenues and determine the sources of coverage requirements for each item costs. Legal, accounting and analytics and optimization techniques can also be used.

Legal method of financial planning. Legal method of financial planning is based on established financial and technical-economic standards of the enterprise on which it expects demand for financial resources and determine their sources. The most important financial regulations are tax rates, tariffs, levies and fees, depreciation rates and ratios of current assets. Depending on the scale they are classified by industry, regional and individual.

Accounting & Analysis is a method of expert assessment of the prospects for enterprise development. Use it during the forecast earnings and revenues. In applying the method of calculation and analytical targets calculated by taking into consideration the analysis of financial performance over the past year and predicted indices of changes in the planned year.

Optimization methods of planned financial solutions provides several options for payment plan decisions, including the implementation of adopted best. In the optimization model can use the following criteria:

- maximum profit per unit of capital invested;
- minimum financial cost of production needs or to implement innovative projects;
- minimum operating costs;
- minimum capital and to obtain maximum results;
- absolute maximum amount of profit.

Economic and mathematical models are built and functional correlations. They allow to model the real process, to calculate its optimal parameters and to quantify the relationship between financial indicators and factors that affect them.

Profit planning

One of the most important indicators of effective enterprise activity in the market is profit.

Income - is part of the proceeds remaining after reimbursement of the cost of production and business enterprises.

The financial results reflected in the balance, the balance is called profit.

Equity income consists of:

- Profit from operations: sales of products (goods and services);
- Profit from the other realization (of fixed assets, raw materials, etc..)
- from non-profit operations (income from property renting, the income from short-term and long-term financial investments, past earnings, found in the reporting year, etc.).

Methods of planning income:

- 1) direct method of calculation;
- 2) in terms of the cost of one UAH of products;
- 3) analytical method.

Direct calculation method based on extraction from net income of the enterprise all its costs. Calculated for certain types of products manufactured and sold by the formula

$$\Pi_{onep} = \sum_{i=1}^n \Pi_{pi} \cdot N_i,$$

where Π_{onep} – is an operating profit from the sale of the planned output, thousand UAH.

Π_{pi} – profit from the sale of i-product, which is determined by subtracting the wholesale price of the product cost of its production and sales.

Determination of profit by direct calculation of a large range of labor-intensive, and it does not allow to determine the effect on profits of certain factors.

The calculation of return on rate base the cost of one UAH of products can be used by the enterprise as a whole the rate of return on production and sales of all products. Anticipated use of data on production costs, selling products in the previous period and the expected change that is expected in the next period. With this method of calculation there is also a lack of opportunities to determine the influence of some factors on the amount of profit, its changes.

$$\Pi = \frac{\Pi_m \cdot (100 - B_{1zph})}{100},$$

where Π_m – commodity products;

B_{1zph} – costs 1 UAH of commercial products.

The advantage of the *analytical method* is that it allows to detect the influence of some factors on the planned profit. When analytic method income is calculated not on the specific type of products in the planned period, and comparable across products as a whole. Compared products are products that are produced in the previous period. Incomparable products - products that are not produced at the facility in the previous period. |

Calculation of the planned profit for comparable products are *as follows*:

- baseline revenue and profitability of core products (based on reporting or expected data for the period preceding the planned) is determined;
- comparable period of the planned production cost is determined by the period preceding the planned Ido;
- based on a basic level of product profitability calculated profit for comparable products in the planned period,
- the influence of some factors on profit for the period planned is calculated.

Planned revenue from production (realization) incomparable product is calculated by direct calculation or by using the index of average profitability of the enterprise.

In planning the profit the calculation of break-even point (break-even point ") is very important. It is a sales volume at which the company has losses, but still doesn't have profits. The basis of this method is placed on cost sharing and continuous variables, and profit management mechanism to detect the relationship between costs, sales and profit.

Breakeven determined as follows:

$$TB = \frac{B_{nocm}}{U - B_{3mit}}$$

where TB – is a break-even point, that is, sales from which the selling price of goods exceeds the cost of its production and implementation;

B_{nocm} – the value of fixed costs, UAH.

B_{3mit} – Value of the variable cost per unit of production, UAH.

U – wholesale price, USD.

In case when several products are produced, break-even point is calculated for each type separately, while fixed costs are calculated proportionally to proportion of products in total sales.

The delayed income is an object of distribution. In the distribution of income there are two stages:

- 1) income distribution (at this stage the participants are state and distribution company comprised of distribution ratio under the influence of such factors: the objects and tax rates of the tax benefits);
- 2) the distribution and use of income remaining at the disposal of business after making payments to the budget.

The mechanism of income distribution should be constructed so as to fully enhance the efficiency, stimulate development of new forms of management.

The enterprise should have the following funds: fund accumulation fund consumption, the reserve fund.

Providing industrial, material and social needs from the net profit, the company should strive for optimal balance between consumption and accumulation fund in order to take into account conditions and market conditions, however, stimulate and promote the results of workers of the enterprise.

In the transition to market relations is necessary to reserve resources in connection with the risky operations and, consequently, loss of income from business activities. Therefore, the use of net income is appropriate for a business contingency fund, whose size is subject to annual replenishment of not less than 5%.

Questions for self-check:

1. What is the essence of the planning process? Justify the need for planning of business enterprises.
2. What is the plan of enterprise system?
3. What is the role of planning sales planning system in the enterprise?
4. What is the marketing plan? Describe the stages of developing a plan of distribution.
5. What plan of production, its structure and performance?
6. How is the production program in terms of value planned?
7. What is meant by production capacity? Identify the need to justify the production program production capacity.
8. The calculation of production capacity of various branches enterprises.
9. What are the indicators of capacity utilization are and how they are calculated?
10. Purpose and elements of planning the number of employees.
11. Give the classification of planned funds pay and their short characteristics.
12. The purpose of planning and continuity of production costs.
13. Describe methods of cost planning.
14. What are the content and main tasks of the plan logistics manufacturing?
15. Defining the need for material resources.
16. What is financial planning and that its main task in the enterprise?
17. What methods of calculation used in the planning of profit?

CHAPTER 18. BUSINESS ORGANIZATION

18.1. General characteristics of business activity

Modern conception of business (entrepreneurship) was formed only in the middle of XX century. Joseph Schumpeter had determined this conception in the most well-grounded way. Making of new maneuvers, that is getting of something new, which is differ from previous things, is a functional role of entrepreneur. Making of new maneuvers means:

- production of new good;
- adoption of new technology;
- market development;
- opening up new sources of feedstock;
- re-organization of sphere structure.

Schumpeter had considered an entrepreneur as a subject of special separate analysis. His theory is grounded on the principle of entrepreneurship, that is the activity of entrepreneur as an innovator, who does not accommodate himself to market tendencies, but he undermines and reorganizes business system, and at the same time he solves its problems with traditional and non-traditional movement. This theory is basic for modern conception of entrepreneur.

Main characteristics of entrepreneurship are initiative, risk, responsibility, planning, arrangement, control, financial freedom, and search for new effective ideas.

Effective entrepreneurial activity involves the presence of some rights of the subject of economical activity.

Rights of an entrepreneur:

- making of any types of entrepreneurship for realization of entrepreneurial activity;
- full or partial purchasing of property and acquisition of the right of ownership;
- independent formation of economical activity, selection of suppliers, determination of prices and taxes, independent disposal of profits;
- concluding of contracts with workers concerning the usage of their work;
- independent determination of types and systems of remuneration of labour for individuals, who work for hire;
- boundless profit earning;
- participation in foreign economic ties, making of currency transactions, usage of public service of social security and social insurance.

Duties of an entrepreneur:

- concluding of contracts with workers, who work for hire;
- realizing of remuneration of labour, which is not less than minimal size, which is determined by legal system, and guaranteeing of safety arrangement and precautions;
- following the rules for supporting of consumers legitimate desires;
- guaranteeing of high quality and dependability of products;
- gaining of a license for some types of activity in accordance with valid law.

An entrepreneur is responsible for obligations, which are concerned with his activity, by his property, with the exception of that property, which can not be confiscated in accordance with valid law; environmental protection; occupational sanitation; caused damage and losses.

A court may declare the subject of economical activity as a bankrupt, in the case, when the latest has insufficient amount of property to cover debts, and the financial improvement of business is impossible. An entrepreneur must indemnify loses for hired worker, who lost labour ability, in accordance with valid law.

Unlike state and mixed enterprises, an entrepreneurship has such peculiarities as:

- the highest level of economic isolation and freedom concerning the choice of activity types, formation of production program, choice of suppliers and customers. Their dependence on general market tendencies, information and external environment of combinability of focus for commercial success achievement and profit earning grows at the same time. Aspiration for profit growth may occupy subordinate place in hierarchy of tactical tasks and demands for creating of preconditions for achievement of strategic success (market expansion, price increase for shares);
- heightened property and personal responsibility for decision-making, their fulfillment and ability to foresee and minimize risks of making different operations.

Everyone may carry out selective and commercial activity, activity in service sphere, commercial mediation, purchase activity, activity in building, innovative and investment sphere, etc.

Entrepreneurial activity can be classified on such types as (Tab. 18.1):

Table 18.1

Types of entrepreneurial activity

According to functional peculiarities	According to legal limits	According to reconstitution stages
production	free activity	production enterprise
commerce	opportunities for activity (license)	commercial
rendering of services	state activity	financial
execution phase		

Free entrepreneurial activity entitles the entrepreneur to perform independent activity, which is legal, without any limits.

Opportunities for activity mean reception of license for carrying out entrepreneurial activity and can be classified into 4 groups:

- production and selling of new goods (alcoholic beverages, tobacco goods, medicine, chemical agents.);
- transportation industry (international, internal traffic, international and interurban postal transport);
- special types of work (geological prospecting of minerals, weapon manufacturing, funds manufacturing);
- special services (medical care, veterinary service, judicial aid).

State activities are fulfilled in the following spheres: production and sale of drug substance, psychotropic substance , explosives, military weapons and ammunition, rocket and space industry. Unlimited company may carry out the realization of pawn operations with state-run enterprises.

According to the reproduction phases (production, exchange, distribution, consumption) there are three types of entrepreneurship: the industrial, commercial, financial.

Manufacturing entrepreneurship is an activity, which applies to the production of goods, services, information support, spiritual values, which must be sold customers. Production is basis in fulfillment of manufacturing activities and marketing is secondary activity.

Manufacturing factors may belong to entrepreneur in part (workforce, accumulative resources), and other needs are satisfied by their purchase on the side. The entrepreneur can apply to outside services for building, construction works, transport and intellectual services during the manufacturing process. In this case, outside organizations play the role of mediators between the entrepreneur and the consumer.

The entrepreneur must analyze market situation, identify the competitive advantages of production offered by the market for successful business. When the manufacturer offers an innovative product, he must consider its vital cycle and determine the effectiveness of the product by comparing future costs and revenues, which the entrepreneur expects to receive in the future.

In the commercial entrepreneurship the main role is played by commodity-money and commodity-exchange operations, which determine its content. The operations and selling and buying contracts are the core of commercial activities. The efficiency of commercial activities is defined by ratio of expenses and receipts for the purchase and sale of goods and income from its selling in the corresponding periods.

Commercial activity is based on the following principles:

- organizational and economic independence, autonomy and freedom in choosing of legal forms and types of trading activities by economic players, the specialization of product profile of companies and customer service techniques;
- non-discrimination, availability of commercial services for all customer categories, priority consideration of their interests;
- civilization - a high level of service;
- competitiveness - effective functioning in a competitive environment on the assumption of antimonopoly laws.

18.2. Small business in market economy

Small business is an independent economic organization, which can carry out all activities, which are not prohibited by law, at their own risk for the purpose of receipting income. When defining the term "small business", one must consider not only quantitative indicators but also qualitative, such as legal independence, unity of ownership and self-management, direct relations between the owner and employees, full responsibility for the outcomes of activity, limited outlet, total family dedication to case. So, as we can see, entrepreneur can only economically independent person.

Small business is a leading sector of the market economy, which is the basis of small production; determines the pace of economic development, structure and quality characteristics of the gross domestic product, the degree of democratization of society; carries out restructuring the economy, rapid return on costs, freedom of market choice; provides the market saturation with goods and services, realization of innovation, additional working places; is characterized by high mobility, rational forms of management; forms the social stratum of entrepreneurs-owners - the basis of middle class; favours slackening the monopoly, development of competition.

The entrepreneur performs certain functions, which are specific for this type of activity, in small and large.

Resource function is that the entrepreneur takes the initiative of combining land, natural resources, capital, labor, money and information in the process of production of goods or services, organizes the production, distribution of means of production and work.

Management function of entrepreneur is a decision-making at all stages of production and sales activities, planning, organization, control, motivation of production.

An innovative function is the implementation of innovations (novelties), that is new development, mastering of new products, technologies and forms of work organization and search for new selling channels and new means of meeting the needs of consumers and others.

The function of risk implies the need for such solutions that are conducive to success, but do not guarantee its because of variability and uncertainty of economic situation.

Two main criteria (average number and gross annual income) are used to determine the categories of companies.

Small business functions are:

- creating an effective private sector of economy, which is demand-oriented; stimulating business activity and the birth of new social stratum of entrepreneurs-owners;
- promoting of de-monopolization, privatization and deregulation of the economy;
- the release of public sector production from unprofitable products and promoting the efficiency of large enterprises;
- creation of new work places and overcome of the hidden unemployment;
- promoting the democratization of society;
- targeting of small business to local market and individual consumer demand;
- overcoming the deficit and contributing macroeconomic stabilization during stagnation.

One of the main reasons of development of entrepreneurship in developed countries is that large production is not opposed to small.

All forms of business co-exist there and follow the principle of cooperation, and large enterprises do not inhibit small businesses, they are mutually complementary.

The main factors that explain the instability of small businesses are limited financial resources, unstable market conditions, unstable income, poor segmentation of own market share, the risks of bankruptcy, a narrow range of consumers, large intensity of competition, etc.

The shadow economy is the economic activities of individuals and legal entities which are not considered, not controlled and not taxed by the state and aimed at obtaining profits through violation of the law. All of its types can be divided into the following areas:

- legal production of goods and services ("informal economy");
- breach within the allowed economic activity ("clandestine economy");
- activities, which are prohibited by the law: racketeering, corruption, criminal intention ("illegal economy").

Breaches of state requirements and restrictions are determined by the following reasons:

- imperfection and contradictions in legislation, which regulates business activity;
- low efficiency of public administration and the incompetence of programs, which it realizes;
- economic benefit of breaches and restrictions;
- power state and private coercion;
- demand for immoral and negative social goods (drugs, weapons, prostitution).

The most widespread kind of shadow economy is taxes and obligatory payments evasion, which has such methods as:

- illegal production of goods;
- unaccounted circulation of goods and services;
- illegal receipt and use tax exemptions;
- hiding the real volumes of profits and revenues;
- hidden income (for individuals);
- artificial bankruptcy and insolvency;
- concealment or falsification of report documentation and information about business activities;
- change of residence of the party of economic activity.

For struggle against shadow economy the following measures should be implemented:

- creation of an appropriate legislative framework in which an amnesty of shadow capital must be stipulated. To focus law enforcement agencies on containment of organized crime and criminal trades;

- consideration of the social and psychological factors (implementation of legal, organizational and economic measures against the informal economy).

18.3. Ways of business organization

There are some basic ways of entering the business: creating a new company, through contractual franchise relationship; acquisition of functioning firm.

The starting point of every new enterprise is the idea, which was as basis. It is possible to implement your own idea belongs to the advantages of this method of business organization.

This idea has the following advantages: originality of business concept, complete freedom of choice of sphere and type of business; lack of risk to buy the company with a bad reputation; possibility to realize creative potential of entrepreneur.

Among the predicted shortcomings one can single out the following: lack of generated demand for firm's goods; relatively high acquisition costs for production factors; lack of work experience with suppliers, banks and other market participants, the slow pace of market activity; the lack of "name" during entering the market and, consequently, inert attitude of consumers to firm's goods.

Industrial and organizational structures can be identified by head of enterprise (the owner), that depends on the type of activity and designation. Prerequisite for small firms is the of such specialists:

- Executive Director, who has organizational skills, knows the basics of accounting, marketing and promotional activities;
- Chief Accountant with experience in commercial structures;
- Manager of advertising and marketing;
- Manager of goods and services.

There are principal factors that affect the placement of enterprise: provision with work force, raw materials, transportation, maintenance, availability of certain benefits, the proximity of the market.

After selecting the region's accommodation of enterprise, it is necessary to determine concrete place of accommodation inside this region. It should be guided by the following criteria:

The city has a high price for land, enough skilled work force with high demand. The result is a significant turnover of the work force, good transport facilities, high level services (banks, hotels), but there are difficulties in obtaining land.

Suburban area is the average in terms of land price, tax payments, has sufficient conditions for the rest, less trouble with getting the land, better transport provision of supplies of raw materials and finished products than in city, sufficient level of service, possibility to involve skilled work force from the city, but has problems with traffic and parking.

Rural area has low price of land, possibility to obtain grants from local and central government bodies, low taxes and charges, adequate supply of unskilled work force, the limited transport capacity, lack of commercial services.

The enterprises of retail trade are placed near the settlements. The number of consumers, their consumer ability will determine the size of store and size of investments for its creating. To reduce costs, larger wholesalers are placed in rural areas.

"Hypermarkets", which are placed on the outskirts of cities, appears in retail trade. This kind of trade offers cost savings, but its drawback is the dependence on the category of consumers who have motor-vehicle transport.

The choice of premises for organization of enterprise activities has great importance for commercial enterprises. The company with high profits, low turnover, the need for additional space for large windows, steady demand, high supply costs, increased advertising and goods delivery chose cheap premises.

Premises with high rent is more suitable for businesses that allocate significant place for showcase, have high turnover, low gross profit, appeal to casual buyers, have low overhead costs per unit of goods, engaged in advertising less than others.

In addition to these, the choice of premises must take into account the factors, which are dictated by the local conditions. For example, shops of electrical appliances, textiles, carpets, furniture operate successfully in some large trading areas, because the large flow of customers in these areas helps to increase turnover.

Placing production enterprises depends on location of customers and suppliers. When the weight or quantity of production went down in the process of manufacturing, enterprise is placed near raw materials depot (metallurgical plant, food concentrates plant). When the production process adds the weight, then the enterprise is located close to the market, because it saves transport costs.

Proximity to the market, usually dominates the proximity to raw materials. However, there may be exceptions. They include industries that have large waste or company produces perishable goods (woodworking, canning plants).

Service providers have some peculiarities in placing. Placing of service firms depends on the type of services they provide to clients. For example, a beauty salon, repairing clothes, TV repair do not require expensive facilities. They are closely connected to residential customers and are placed in local shopping districts in addition to large department stores or in separate premises. But demand for premises differs among the various service enterprises. Beauty salons should be placed in an attractive, cozy and comfortable rooms. Shoe Repair stations should be placed closer to the consumer of their services. For travel agencies it is important to have space on crowded streets for pedestrian could go there simply because of curiosity. Many companies may offer phone services, but it is also important for them to be visible from the street.

Thus, passing all the stages in the way of establishing their own business is a large school of tenacity at the market to the way of the realization of ideas for every entrepreneur, and each successful step is a mini-success.

The biggest franchise occurs in trade, services and nutrition sphere. It can be considered as a method of business organization, based on agreements between large corporations (franchiser) and small companies (franchisees) or individual entrepreneurs on the basis of mutual benefits and privileges.

Franchiser allows small entrepreneurs to lead business in accordance with an agreement on a defined area during a specified period of time, providing them with their goods, advertising services, technology and trademark. Franchisee operates under the franchiser's governance, which provides it with services management, marketing and gives information about market conditions.

System of franchise's relations reduces the risk at the beginning of entrepreneurial activity, because it provides the franchisee's business with a well-known trademark, guarantee quality, higher level of training and skills development, concessional financing and credit agreements, effective investment capital.

At the same time making franchise agreement for an entrepreneur means significant limitations in making independent decisions, reduced income, necessity to follow the operating standards, which are set by the franchiser.

When one buys an existing business, one should study the subject of purchase according to the following aspects: finance, marketing, operations, motivation of sellers and prospects. In assessing the financial condition one should learn financial documents, make sure of their accuracy, analyze the information of audit, carry out an inventory of property, compare firm indicators with average indexes and evaluate alternatives of investments.

When entrepreneur buys an existing business, he must consult the professional advisers, lawyers, accountants, specialists in real estate, business planning and other spheres in order to get useful recommendations.

There can be few options of purchasing an existing business: new purchase, when the company is purchased in full, with its branches and departments (acquisitions), and in fact it stopped its existing as an independent economic unit, or partial purchase, when only one of the subsidiaries of existing enterprise is bought.

The aim, financial ability of the buyer, the type of enterprise, its cost and strategic perspective influence the choice of purchase.

Thus, making purchase and sale transactions of the enterprise, it is important to remember what is the subject of agreement - the entire property, corporate right, legal entity as a single object or something else. If only corporate rights are sold, they will have only a contractual property (by arrangement). If you the entire property complex is purchased, there will be another price with reference to book value.

The most difficult question of buying business is the determination of its price. To estimate the firm price, there are three methods: book, income and market approach.

When the income of the company determines the value of its property and expenses for new business does not exceed a value of the business property, which is bought, the balance method is used.

The purpose of business purchase is the purchase of future income, so the more common method is income method (additional income, capitalized income, future income).

Market method of valuation of the company is based on the calculation of coefficients of the average cost of one share and sum of net annual revenues of the firm.

When a company purchase is connected with shares exchange, one should determine the exchange ratio of shares, that is how many shares the company-buyer may give the company, which is bought, that its shareholders agree to exchange their shares.

Each method has its advantages and disadvantages, that is why the price of the buying item must be defined by several methods, choosing the best option for the particular case. The final price is set by negotiation between the buyer and seller.

18.4. Choice of business activity type

Business activity is an activity that is not prohibited by law, aimed at gaining profit and is supported by the owner. There are several types of business activity: industrial, commercial, financial, brokerage, insurance, which are chosen by entrepreneur without coercion by the state.

Manufacturing activity is an activity of the production of goods and services; commercial activity - in the sale of goods and services; financial - in the banking and credit spheres; intermediary - providing legal, economic and other kinds of services to citizens and businesses of sale of goods (services); insurance - insurance of people, material assets, business risk etc. In Ukraine, financial and commercial business are the most advantageous, and the least profitable is manufacturing. The reason for this is that during the transition to a market economy it is risky to invest industrial development, since these funds can provide income in a few months, years or even

bring harm. In addition, uncertainty in the future, the lack of a clear legal framework also leads to the fact that most entrepreneurs do not venture to invest in the production. However, investing in trade, for example, is more profitable, so that rapid turnover of capital and inflation do not devalue capital investments.

Individual entrepreneur is a person who is engaged in business, registered with the state authorities and pays the appropriate taxes. According to the law, local authorities have to give him permission to conduct certain business.

Legal entity is a company that conducts its own balance sheet, has a bank account, seal, registered with state authorities. Business in Ukraine is exercised in any organizational form prescribed by the law, for choose of entrepreneur or the founders of the company.

Government regulation of business is carried out by using direct and indirect methods. Direct methods are the use of administrative measures and legal regulations. Indirect methods are the use of various economic instruments (imposing taxes, fees, pricing, benefits, etc.).

State supports competition between businesses, struggle with unfair competition, abuse of dominance of some large firms in the market, discrimination entities, protect intellectual property rights and consumer rights etc.

Monopoly position is position in the market of the producer, whose share in the product market exceeds 35%. Monopoly position is also considered each of several entities if in relation to them the following conditions are carried out: the total share of not more than three economic entities exceeds 50%, which have the biggest parts of market on one market; the total share of not more than five economic entities exceeds 70%, which have the biggest parts of market on one market

Abuse of dominance in the market primarily is recognized: 1) establishment of such prices or other terms of purchase or sale of goods, which would be impossible for the substantial competition in the market, 2) application of different prices or various other conditions to equivalent contracts with entities management, sellers or buyers without objectively justified reasons, 3) the adoption of agreements stipulating the entity additional obligations which by their nature not related to the contract, 4) limiting of production, markets or technical development that has brought or may harm other producers or consumers, 5) partial or complete rejection of the purchase or sale of goods in the absence of alternative sources of sale or purchase, 6) substantially limits the competitiveness of other economic entities; 7) creation of barriers to market access or exit other business entities etc. Unfair competition is any act of competition contrary to rules, trade and other fair customs in entrepreneurial activities.

18.5. Legal basics of organization, registration, and termination of business entities

To create a company and its registration in the state authorities, founding documents are necessary: the decision to the property owner, constituent agreement, statute.

In the first, founders of the foundation agreement undertake to form an entity, determine the order of its creation, and conditions of property submission to its, the order of distribution of profits and losses, management of the entity and participation in the founding, order of entry and departure new founders, according to the law, and also its reorganization and liquidation.

Business activity stops: on own initiative of founders of the company, in case of termination of license, termination of existence of the company under court order.

Charter of the entity primarily contain information about its name and location, purpose and object of activity, size and order of formation of the charter and other funds, the order of

distribution of gains and losses, management and control bodies, their competence, of the conditions of registration and liquidation of entity.

Such basic documents are necessary to register a legal person: a) the founding documents in duplicate (decision and the property owner, founding treaty or statute), b) registration card, which is both a statement of registration), c) the document, that confirms payment of registration fee .

The law defines specific reasons for refusal of the entity state registration: mismatch information, which is indicated in the registration card and registration of documents, violation of a company creation (commission by the founders violations of law, the presence of a single national identity register name etc.). However, an registration may be denied only in case of disparity of information, which is stated in the registration card and in documents submitted for registration; the presence of limitations on class business; in the presence of Single State Register record, which shows that the applicant is already employed. Failure in a state registration on other grounds is prohibited.

The law also contains the basis of the fact of state registration termination (liquidation) of legal entity and the cessation of business of the individual (e.g., reorganization of legal entity, or its merger with another company, the death of the entrepreneur, the recognition of his incapacitated by a court or the founders). However, court decisions can be taken only under certain circumstances: the conducting of activities, which is prohibited by law, failure to submit tax returns, documents, financial statements during one year, bankruptcy. And there are criminal penalties for false bankruptcy and reduction to bankruptcy.

There are seven main stages of liquidation of the entity, including a bankrupt:

- 1) The decision on liquidation, a liquidation committee and a liquidation procedure, taking appropriate action to recover debts.
- 2) Submission of documents for removal from the register of taxpayers to the appropriate state tax authority.
- 3) Submission of documents for the exclusion of Single State Register of Enterprises and Organizations of Ukraine to state statistics.
- 4) Submission of documents for deregistration payer insurance contributions to all social security funds, including the department of the Pension Fund.
- 5) The termination of the liquidation procedure (first settlements with creditors and employees).
- 6) Submission of documents for cancellation of state registration body for state registration.
- 7) Removal from the State Register of Enterprises and Organizations of Ukraine.

18.6. Licensing of the certain types of business activity

License is a document of state standard, which certifies the right of the licensee to conduct the specified type of business within a specified period according to the license terms. License is valid for 3 years.

Licensing is issuing, renewal and revocation of licenses, issuance of duplicate licenses, management of license affairs and registers, control of the observance of license conditions by licensees, issuing orders to eliminate violations of license conditions and orders to eliminate violations of legislation on licensing.

Subjects of relations arising in connection with licensing, is on the one hand, an entity, on the other hand - the licensing authority.

Entity is registered as required by legislation legal entity regardless of its legal form or ownership, which leads economic activity, but government and local governments, and individuals

– subject of entrepreneurial activity. The licensee is subject to the receipt of license for certain types of economic activities, which is subject for licensing.

The licensing authority is an executive body or specially authorized executive body of the licensing for certain businesses.

The license is the only permit that gives the right to carry out certain type of economic activity, that is subject to law restrictions.

The entity must perform a certain type of economic activity, which is subject to licensing, according to the set of license conditions for this type.

Licensing conditions and changes of the licensing conditions must be published in the manner prescribed by law and become valid in ten days after the date of state registration of legal act, if it is not provided later date.

Licensed in Ukraine are subject of the following types of economic activity:

- 1) search (exploration) of minerals,
- 2) production and repair of firearms, ammunition, knives, air guns caliber more than 4.5 millimeters and the flight speed of the ball over 100 meters per second, the sale of firearms and ammunition, cold steel, pneumatic caliber exceeding 4.5 millimeters and the flight speed of the ball over 100 meters per second,
- 3) the production of explosives and materials (according to the list, which is established by the Cabinet of Ministers of Ukraine),
- 4) the production of dangerous chemicals (according to the list, which is established by the Cabinet of Ministers of Ukraine),
- 5) the extraction of uranium ore,
- 6) mining of precious metals and precious stones, precious stones of organogenic origin, semi-precious stones,
- 7) production of precious metals and precious stones, precious stones of organogenic origin, semi-precious stones,
- 8) manufacturing articles of precious metals and precious stones, precious stones of organogenic origin, semi-precious stones, the trade of precious metals and precious stones, precious stones of organogenic origin, semi-precious stones,
- 9) production of pharmaceuticals, wholesale and retail pharmaceuticals,
- 10) production of veterinary medicines and preparations, wholesale and retail of veterinary medicine and drugs, etc., about 60 types of business.

The application for a license must contain the following data:

- 1) information about an entity - the applicant: name, address, bank details, identification number - for the legal entity; full name, passport data (series, passport number, by whom and when issued, residence), identification number of an individual - tax and other obligatory payments - for individual,
- 2) the type of business to the proceedings of which the applicant intends to obtain a license.

In the case the applicant has affiliates, other separate departments that adopt economic activities on the basis of a license, the declaration indicates their location.

The application for licensing, a copy of the certificate of registration of the business entity or a copy of amendments to the Single State Register of Enterprises and Organizations of Ukraine, notarized or certified by authority which issued the original document, is added.

Application for the license will not be considered if: the application is submitted by a person who has not rights for it; document is issued with violation of the law. On leaving the application for a license without the consideration, applicant is informed in writing indicating the grounds of

abandonment application for a license without consideration of the terms provided for the issuance of licenses.

Notification about the decision to grant a license or denial of the license is sent to the applicant in writing form within three working days from the decision. The decision to refuse to issue a license must indicate the grounds for the denial.

The reasons for the denial of license are: an incorrect data in the documents submitted by the applicant for a license; the applicant's non-compliance in accordance with the submitted documents to licensing conditions, which are set for the type of business specified in the license application.

The decision of refusing to grant the license may be appealed in court.

When a licensee intends to carry out specified in license the type of business after it expires, he should get a new license. The new license is issued by the licensing body, not earlier than the last working day of the previously issued license.

18.7. Business planning in modern entrepreneurship

No company is able to succeed without a sound business plan in a market economy. The business plan determines the mechanism of management of business processes at the enterprise for ensuring its effective functioning. Business plan is one of the most important tools for responding to changing market environment and successful adaptation to these changes. Business plan is made for external and internal users.

The aim of the plan for external study is the grounding of loans and gaining of the confidence of potential investors as for its financial stability and strategic support.

Lack of business plan, which includes constantly changing of internal and external environment, is an important drawback, which characterizes the low level of company management, difficult relations with creditors and achievement of long-term stability in a competitive environment. Business planning is not limited with convictions of investors of the wisdom of supporting the firm. This plan is important for firm personnel, providing him the opportunity to identify future strategic directions for industrial, commercial, financial, innovation and investment and the timing of their implementation. The business plan is also essential planning and operational control of the company.

The business plan influences a perspective, operational and current activity of the enterprise through the creation and coordination of the relevant business processes. Business process is a workflow that moves from one specialist or department to another. Standard business processes are absent for today, because each company defines their own composition. The most typical structure of such business processes are:

- organization of training for improving qualification of executives and professionals;
- creation of a service for competitors monitor;
- organization of innovative activities (design and development of new products and equipment);
- selection and certification of mediators;
- organization of effective service for buyers of goods;
- organization of quality management systems;
- coordination of production design;
- selection and certification of dealers, which are engaged in sales and distribution of company's goods;
- determination of requirements for innovative products;
- organization of promotional activities;

- creation of marketing and logistics and identifying of ways for company prospective development;
- selection and certification of lenders and sponsors.

In addition, the supporting documents, the most important of which are following, must be added to the business plan:

- Job descriptions, information on staffing;
- Specification of products (goods and services that the company plans to produce, their quantity, quality characteristics, variety, grade, etc.)
- Drawings, photographs, copies of agreements and contracts, price lists (directory of prices of goods, services, products);
- Patent documents, financial documents (balance of cash flows for 1 and 5 years, the calculation of gross profit, calculation and analysis of financial ratios - debt, property, accounts payable, etc.);
- Examples of promotional materials, inventory and other data.

Principles of the business plan creation are:

- Qualitative and meaningful design (appearance, quality cover, clear drawings, photographs, calculations, etc.)
- Clear orientation to the recipient (lender or investor);
- Thorough description of a particular segment of market, needs and preferences of consumers of this company;
- Conviction of the substantive ideas, particularly in the efficiency of business (revenue) and the timely repayment of loans etc.

Creation of business plan is a process of the company's own self. during the exercise of self-assessment it is necessary to find reasonable answers to questions of firm activity:

- type of firm's business;
- value and uniqueness of the company;
- a firm's place in the industry;
- characteristics of the market and firm's consumers;
- market share of the company and ways of expanding;
- place of the firm's goods in the minds of customers;
- image of the firm and arrangements for its improvement;
- likelihood of major changes (products, services, technology, competition);
- strengths and weaknesses of a company;
- business development strategy for the next 3-5 years;
- investments for achievement of the set goals;
- the main source of financing development of company;
- an action plan for achievement of company's goals.

To define strategies it is necessary to carry out an analysis, which allows to answer the following questions:

- state of internal and external environment and its impact on the existing organizational structure of the enterprise;
- compliance with business goals and resources of the firm and its promotion of the strategic goal;
- level of qualification and the need for recruitment of new professionals;
- availability of funds for the project, additional needs and time frame;

- adopted suitability of the strategy for minimizing the weaknesses of the firm and for development of strong features;
- procedure for review employees the project of company development;
- reaction to the draft banks, shareholders, customers and competitors;
- probability of success and measures to improve the reliability of its achievements.

Regardless of the scope and features of a company which is preparing a business plan, we can identify several common steps, which are necessary to overcome in its development:

- definition of object of business plan. It is necessary to imagine if business plan is prepared for internal use or managers of companies or it is designed for investors, commercial banks, lessors, venture funds and others.;
- gathering information, which is necessary for preparing a business plan. At this stage you should identify the sources of information, which is necessary for preparing a business plan.
- choice of a business plan structure and its development. Depending on the volume of business plans, they can be divided into three main categories: brief, full and operational business plan.

Brief business plans become increasingly popular. Since this plan is much smaller in volume than a traditional plan, it requires less information and fewer deployed research, so this document can be made generally much faster than the traditional.

A brief business plan ought to make if the company is relatively young or do not plan to issue a few articles of goods. Recently, banks require businesses concise business plan together with other documents when the latest apply for credit. In addition, a brief business plan will help to interest potential investors in your project and get their previous comments, which may further be useful in creating a detailed business plan.

Full business plan is traditional. It should cover all aspects of the company and at the same time, the volume does not exceed 40 pages. Full business plan is required to fund raising in large quantities, as soon as the plan may not always meet the high demands of avid investors. It may also be required at finding a strategic partner (e.g., merger or joint venture).

Plans, which volume exceeds 40 pages, is not recommended to design. However, there are situations where companies need a detailed plan that exceeds the maximum recommended amount. Such plans should be very detailed coverage of all aspects and details of strategy and organization of sales, marketing, production and research company policies, but also contain enough detailed financial projections. A good business plan is a tool for effective planning system, which allows to determine the market situation in time and successfully carry out activities in the market.

18.8. Ways to increase business effectiveness

Effectiveness is an assessed category. It is always determined by the ratio of value to the result value costs. Plan of technical and economic development are complex and developed in the following areas:

- introduction of progressive technology, mechanization and automation of production;
- improvement of management, planning and organization of production;
- research and development activities;
- conservation and sustainable use of natural resources.

The main task of development of new and improvement of existing products are provisions of high technical level of production and competitiveness through the introduction of modern equipment and technology at all stages of its creation and production. Measures to improve the quality of products have the property that the effect of their implementation is realized primarily at

consumers and improve their confidence in the company and increase demand. Part of the benefit of commodity can be obtained due to price factor.

Actions, which include the introduction of new equipment, technology, mechanization and automation of production, improve management, marketing and manufacturing organization, significantly affect the efficiency manufacturing. They help to increase productivity, reduce cost of production, its energy, expand enterprise market and increase profitability.

Important problem of the development of enterprise is development of projects on environmental protection and rational use of its resources. Therefore, all projects of technical and technological development must undergo environmental review and provide minimal environmental impact.

A composite plan, that covers all the technical and organizational measures, allows to carry out the development strategy, strengthen its financial position and competitiveness, expand markets and create new markets and demand. By clarification and revision of norms and normative costs of production resources, quality indicators substantiate the business - productivity, earnings and profitability, are considered in plan.

Almost every entrepreneur has limited personal and credit costs. If he takes a loan, he should use them effectively. Entrepreneur should choose one from several projects, that will bring the most revenue and have a positive impact on the financial position of the enterprise. This is, in essence, the basis of appropriate investments.

There are several types of investments: the acquisition of new equipment to expand production, replacement of obsolete and worn equipment, obligatory projects (labour safety, nature safety), and other costs (purchase of land, patents, licenses, administrative buildings, other companies).

Initial capital costs are the costs of initial investment. To determine the projected return on investment, entrepreneur must know the purchasing price of equipment, additional costs, which incur, revenue from the sale of dismantled equipment, the amount of tax he must pay from the sum for the sale of old equipment, benefits of the companies during buying of new equipment. One calculates the capital costs, having answers for these questions.

Package plan, that includes all technical and organizational measures, allows to realize the strategic profile of an enterprise, to increase its financial condition (financial performance) and competitiveness, to extend the market and to create new markets and demand. By means of specification and reviewing of norms and standards of productive resources, qualitative indices of the activity of an enterprise – work productivity, profit and production profitability – are grounded in the plan.

Practically every business owner has own limited and loan funds. If he takes loans, he must use them effective. Between the several projects business owner should choose one that will bring the biggest profit. And will have the positive influence on the financial condition of the enterprise. Actually it is the foundation of capital investments expediency.

There are such kinds of investments: for obtaining new equipment for production enlargement; for replacement of a wear and tear equipment; for compulsory projects (occupational safety and health, nature safety); another expenses (buying of the soil, patents, licenses, administrative buildings, another enterprises).

Initial capital expenditure – are initial investment costs of the project. For calculation of the predicted profit from the investments, the business owner should know: the equipments' purchasing price, additional costs, that arise according to this fact, the profit from the selling of the removed equipment, the sum of the tax, that should be paid from the sum for selling of an old equipment, the

benefits, that are got by the enterprise while buying a new equipment. When you have received the answers to these questions, you can figure out the capital expenditure.

Capital expenditure for the forming of a new enterprise are formed by such elements:

$$KB_{\text{н.}} = B_{\text{з.}} + B_{\text{б.р.}} + B_{\text{н.обл}} + B_{\text{м.обл}} + B_{\text{кр.}} + B_{\text{скл.}} + B_{\text{тран.}} + B_{\text{ишш.}} + КП_{\text{п.}}$$

where $KB_{\text{н.}}$ – the new capital expenditure for the forming of the enterprise, thousand of hryvnias;

$B_{\text{з.}}$ – the costs for the buying of the soil, thousands of hryvnias;

$B_{\text{н.обл.}}$ – the costs for the buying of the new equipment, thousands of hryvnias;

$B_{\text{м.обл.}}$ – the costs for the equipment installation (15-20% of the equipment price), thousands of hryvnias;

$B_{\text{кр.}}$ – the costs for payment of the % for the credit and the sum of the credit), thousands of hryvnias;

$B_{\text{скл.}}$ – the warehouse costs 3-5% from the equipment cost), thousands of hryvnias;

$B_{\text{тран.}}$ – transport costs (5-7% from the equipment cost), thousands of hryvnias;

$B_{\text{ишш.}}$ – the costs for the preparation of the project documents, their confirmation, for the holding of the temporal enterprise direction, hryvnias;

$КП_{\text{п.}}$ – compensatory perks for the installing of the progressive equipment, hryvnias;

$$KB_{\text{д.}} = KB_{\text{н.обл.}} + B_{\text{м.обл.}} + B_{\text{скл.}} + B_{\text{м.обл.}} + B_{\text{тран.}} + B_{\text{д.в.обл.}} + B_{\text{буд.}} + ЛБ_{\text{в.обл.}}$$

where $KB_{\text{д.}}$ – additional capital expenditure for modernization (reconstruction) of the enterprise, thousands of hryvnias;

$B_{\text{м.обл.}}$ – the costs for the installation of the new equipment (15-20% from the cost of the equipment), thousands of hryvnias;

$B_{\text{скл.}}$ – the warehouse costs 3-5%), thousands of hryvnias;

$B_{\text{тран.}}$ – transport costs (5-7%), thousands of hryvnias;

$B_{\text{д.в.обл.}}$ – the costs for the removing of the retiring equipment (50% from the costs for installing by the initial cost), thousands of hryvnias;

$B_{\text{буд.}}$ – the costs for the building works, thousands of hryvnias;

$B_{\text{в.обл.}}$ – liquid cost of retiring equipment, thousands of hryvnias;

$$ЛБ = B_{\text{поч.}} - B_{\text{поч.}} \times T_{\text{експл.}} \times H_{\text{аморт.}}$$

Where $B_{\text{поч.}}$ – initial cost of the retiring equipment, thousands of hryvnias;

$T_{\text{експл.}}$ – the exploitation term of the retiring equipment, years;

$H_{\text{аморт.}}$ – average annual norm of the retiring equipment, %;

Measures that are proposed for application, need the investments on their realization and basis of their expediency and effectiveness.

Special features of the calculation of organizational effectiveness and technical means consist in the fact that the effect is calculated for the planned amount of the production and for base of comparison, the indices of the enterprise activity before the application of measures are taken, and during the building – the indices of the similar enterprise in the sphere are taken. The expediency of the investment in the project can be defined with or without glance of the risk.

The expediency the project without the risk is grounded with such methods: average profit rate – is the comparison of the net effective incomes with the initial project cost. For this, the sum of the net effective incomes for the appointed term is divided for the sum of average investments.

The term “recoupment” – is the number of ages, for which the initial investments are compensated. For the definition of the term “recoupment” the cash flow (profit + amortization) is used. These methods are used in the case of the small capital investments, when their loss doesn't cause the difficult financial implications.

Such activities are figured out with a glance of the risk.

Net present value – is the present value of the cash flow that is reduced on the sum of the initial investments. The project is adopted when $\text{ЧTB} > 0$ ($\text{NPV} > 0$), if the $\text{ЧTB} < 0$ ($\text{NPV} < 0$) it is declined. For the definition of the net present value of the cash flow, it is corrected to the rate of inflation and discount rate.

Internal rate of return – is the discount rate, by which the net present value of the cash flows is equal to initial investment:

$$\text{BCД} = \text{ЧTB} - \text{KB} = 0$$

Profitability index – is the method, that foresees the comparison of the initial cost of the future cash flows with the initial investments:

$$\text{III} = (\text{TB}/\text{III}) \geq 1$$

In every separate case the business owner determines, which method is to be used. The investing in the project associates with the lenders and price risks.

The risk – is a term for the definition of the uncertainty and instability. The investments are safe, if the profits from them are stable and secure. Certainty equivalent method – is the method, which increasingly accounts the investing risks.

The idea of the certainty equivalent method consists in division of the expected cash flows on the safe and risky parts.

For this the estimated cash flows are transferred in the safe with the help of probability ratio, and then are discounted by the safe rate, as a rule, by the safe bank rate.

The next method is the Capital Asset Pricing Model (CAPM), that foresees the distribution of the market on 2 parts: diversified risk and non-diversified. This method allows to define the connection between the profits of the separate owners of the securities and the common profit of the securities market.

Riskiness of the different securities we can define by the simple comparison of their profitableness with the common profitableness (index) of the market. For the definition of the profit dependence for the actions of the market profits, the coefficient β (beta) is used. It characterizes the angle between the market profits and profits of separate shares. This dependence can be demonstrated by the equation:

$$\mathbf{R_s} = \beta \times \mathbf{R_m} + a + e$$

where a – constant;

β – coefficient;

e – mistake value;

R_m – market profitableness;

R_s – shares profitableness;

$B = 1$ the non- diversified, as the whole securities market. If for the shares $\beta = 0,6$ they have the changeability that is less, than the market in the whole, that's why they are not so risky, if, for example; $B = 2$ the shares are risky;

Inflation – is the process of the total money devaluation, by which the present value of the expected cash flows becomes smaller. If not to take it into consideration, then ЧТБ (NPV) and БСД will be expected overestimated. That's why during the calculation of the investment expediency, the cash flows should be corrected on the expected inflation level.

Succession of the calculation of economical effectiveness of organizational-technical and economical measures, is the next:

Calculation of investment program for the several variants of the project.

Choice of the optimal variant of the project from the several that are observed by the method of the led costs:

$$B_{np.} = CB + KB \times K_{эф.} \rightarrow \min$$

where $B_{np.}$ – led costs for the unit of production of the n variant;

CB – product cost price of the appropriate variant;

KB – capital intensity of the product unit of appropriate variant;

$K_{эф.}$ – normative coefficient of the capital investments economical effectiveness ($K_{эф.} = 0,32$).

For the further analyses we take the variant, that has the smallest led costs, and one backup.

Additional income that will get an enterprise due to the increase of production volumes of goods:

$$\Delta\Pi p = (P_{np.} - P_{\delta.}) \cdot (U_{\delta.} - CB_{\delta.})$$

where $\Delta\Pi p$ – additional income of the enterprise, thousands hrn;

$P_{np.}$ – volume of product realization according to the project, t;

$P_{\delta.}$ – volume of products realization according to actual data of enterprise, t;

$U_{\delta.}$ – base price of realization of product unit, hrn;

$CB_{\delta.}$ – base prime price of product unit, hrn;

Additional income due to the decline of unit cost :

$$\Delta\Pi p_{cb.} = (CB_{\delta.} - CB_{np.}) \cdot P_{np.}$$

where $\Delta\Pi p_{cb.}$ – income from the decline of unit cost, thousand hrn.;

$CB_{\delta.}$ – base (actual) prime price of product unit of enterprise, hrn.;

$CB_{np.}$ – unit cost in project, hrn.;

$P_{np.}$ – volume of production realization according to the project, t;

General additional income from realization of measures of plan :

$$\Delta\Pi p_{\delta.3.} = \Delta\Pi p + \Delta\Pi p_{cb.}$$

Net income from realization of measures of plan :

$$\Delta\Pi p_{\delta.4.} = \Delta\Pi p_{\delta.3.} + \Pi o\delta$$

where $\Pi o\delta$ – a sum of income tax, hrn.;

Calculation of net additional cash flow:

$$\Delta\Pi\Pi_{\delta.4.} = \Delta\Pi p_{\delta.4.} + \Delta A_p$$

where $\Delta\Pi\Pi_{\delta.4.}$ – additional net cash flow, thousand hrn.;

$\Delta\Pi p_{\delta.4.}$ – additional net income, thousand hrn;

ΔA_p – additional annual amortization, that accounts from the sum of capital investments, thousands of hrn.

Calculation of present cost of net additional cash flow for a term 5:

$$\Delta\Pi\Pi_{m.6.} = \Delta\Pi\Pi_{\delta.4.} \cdot K_{\delta.м.6.} \cdot K_{\delta.д.у.к.}$$

where $\Delta\Pi_{\text{т.в.}}$ - present cost of net additional cash flow, thousand a hrn.;

$K_{\text{ймовір.}}$ - probability coefficient (the developers of project determine by the stowage of prognosis of enterprise macro - and microenvironments changes on the next 5 years);

$K_{\text{диск}}$ - coefficient of discount (is counted according to discount rate of NBU).

Calculation of net present cost of additional cash flow:

$$\text{ЧТВ} = \sum \Delta\Pi_{\text{м.с.}} - \Delta KB \geq 0$$

where ЧТВ - net present cost of additional cash flow, thousand a hrn.;

$\sum \Delta\Pi_{\text{т.в.}}$ - sum of additional cash flow present cost for calculation period of 5 years, thousand a hrn.;

ΔKB - additional capital charges, thousands of hrn.

Calculation of recoupment index (profitability) of project :

$$I_{\text{ок.}} = \frac{\sum \Delta\Pi_{\text{м.с.}}}{\Delta KB} \geq 1$$

where $I_{\text{ок}}$ - index of recoupment (profitability) of project.

18.9. Financial rehabilitation and bankruptcy of the enterprise

Bankruptcy of businessman takes place as a result of deep financial crisis. Under a financial crisis we understand the phase of enterprise activity imbalance and limited influential possibilities of his financial managers on financial relations. The threat of insolvency and bankruptcy, activity of enterprise in an unprofitable sphere or shortage of resources in the firm for the further functioning is related with the crisis phenomena. From position of financial management the crisis state of businessman consists in his insolvency to carry out the financial providing of current economic activity. The financial crisis of enterprise is characterized by such parameters.

- sources of origin;
- a type of crisis process;
- stage of crisis development.

The analysis of the indicated signs allows to define in time and correctly financial insolvency of enterprise and pick up effective reorganizational measures. The financial crisis of enterprise can stipulated by internal or external factors.

The main external factors of financial crisis can be:

- a recession in trade of the country economy;
- diminishing of population purchasing power;
- permanent increase of inflation rate;
- instability of economic and tax legislation;
- instability of financial and currency markets;
- strengthening of competition in industry;
- crisis processes in separate industries;
- seasonal vibrations of demand and supply of commodities;
- discriminatory measures in relation to enterprises from the side of power organs;
- political instability in a country or in the countries of firms-suppliers;
- conflicts between the founders of enterprise.

Influence of external factors on the financial state of enterprise has strategic character. They predetermine a financial crisis on an enterprise, if financial managers by mistake or too late react on them. For the timely reacting, an enterprise must have the system of the early warning and reacting, one of tasks of that is prognostication of bankruptcy.

To internal factors we refer:

- imperfection of the management system;
- imperfection of organizational structures;
- a low level of administrative personnel qualification;
- insufficient power of firms-suppliers;
- the uneffective system of marketing, that resulted the loss of sale markets;
- miscalculations in investment policy;
- absence of innovations;
- the insufficient financing;
- unsatisfactory work of controlling services.

The typical consequences of influence of the enumerated factors on financially-economic activity of enterprise are:

- loss of having special purpose consumers;
- loss of amount of orders and contracts;
- violation of rhythm of production and insufficient employment of industrial capacity;
- increase of unit cost and diminishing of the income;
- increase of the non-liquid fixed assets and excess supplies;
- increase of personnel fluctuation;
- diminishing of volumes of production realization.

In practice of enterprise activity there can be such types of crises :

- strategic - when productive potential is destroyed and the long-term factors of height are missing;
- profitability - losses "eat" a property asset, that results in the unsatisfactory balance structure;
- liquidity - an enterprise is insolvent or there is a threat of its origin.

The crisis phenomena on an enterprise consist of three phases:

- the first phase - directly does not threaten to functioning of enterprise, if it is transferred on the mode of antirecessionary management in time;
- the second phase - threatens to further existence of enterprise and requires realization of financial reorganization;
- the third phase is the crisis state, that is not consistent with further existence of enterprise and requires his immediate liquidation.

If a court made decision about the penalty of debt, but a debtor is unable to liquidate it, then during a month from the day of awarding judgement a creditor can appeal with a statement about raising action about bankruptcy of debtor.

Activity of enterprise can be ceased under such circumstances:

- on own initiative or in decision of labour collective;
- on the basis of judicial act in connection with non-fulfillment of the terms set by a current legislation;
- in case of confession him as a bankrupt;
- in case of end of license period.

Liquidation of enterprise is carried out by a liquidating commission, that is created by a proprietor or by authorized organ, that is court. Proprietor or court, that makes decision about liquidation, sets an order and term of realization of liquidation, and also term for the statements of creditors claims, that can not be less than two months from the moment of announcing of liquidation.

A liquidating commission carries out the estimation of property of the liquidated enterprise, settles up with creditors, folds liquid balance and gives it to that, who made decision about liquidation. Balance is confirmed by an auditing firm.

In case of bankruptcy, passing of case consists of such procedures:

- establishment of fact of debtor insolvency and indisputability of creditor requirements, if he initiated commencement of proceedings;
- exposure of all creditors and possible turnaround manager;
- realization of reorganization or conclusion of peaceful treaty;
- confession of debtor as a bankrupt;
- realization of procedure of creditors requirements satisfaction due to the sale of property assets of debtor.

Accord and satisfaction - is procedure of reach accommodation between a debtor and creditors in relation to transference of date of payment of debts or in relation to diminishing of their sum.

Reorganization - is the system of measures that come true in the process of realization of case about bankruptcy with the aim of prevention of debtor confession as a bankrupt and his liquidation. It is aimed at turnaround of debtor financial state, and also at satisfying of debtor's request partly or in whole by crediting, debts restructuring and capital and defence of productive and organizational structures of subjects of entrepreneurial activity.

Pre-trial reorganization is the system of measures in relation to proceeding in solvency of debtor, that come true by the proprietor of enterprise-debtor with the aim of prevention of its liquidation.

Management reorganization is the system of antirecessionary management, the primary objective of that is the effective use of financial mechanism for warning of bankruptcy and realization of the financial turnaround of enterprise.

To the functional spheres of reorganizational management belong:

- raising of aims;
- forming and analysis of problem;
- search of alternatives, prognostication and consequences estimation of their results ;
- decision-making;
- implementation of concrete reorganizational measures;
- control;
- an analysis of deviations from plan indexes.

The important constituent of reorganization management organization is an input of effective systems of controlling. Decision herewith is creation of the systems of the information providing, plan, analytical and supervisory services. The main tasks of reorganizational management are shown in Tab. 18.2.

Table 18.2

The main tasks of reorganizational management

Sphere	Operative		Strategic
Aims	Securing of liquidity	Management of profitableness and optimization of resource usage	Securing of enterprise vital functions
Objects of management	Liquidity	Profitableness	Competitiveness

The plan of the financial turnaround of enterprise consists of entry and four issues. Also the aim of reorganizational plan composition is formulated, the plan customer and methods, that are used during its creation (Tab 18.3).

Table 18.3

Structurally-logical scheme of reorganizational plan

Introduction	General description of enterprise Legal form of business organization and ownership form Organizational structure Sphere of activity Historical certificate
1 st Chapter	Analysis of initial data; Estimation of external terms Analysis of the actual financial state of enterprise Analysis of reasons of crisis situation and weak points of firm State of production markets Present firm potential Ground of reorganizational expediency
2 nd Chapter	Strategy of reorganization, operative program Strategic aims of reorganization (tree of aims) Catalogue of operative measures about the liquidity renewal
3 rd Chapter	plan of reorganizational measures Plan of marketing and estimation of sale markets Plan of production and investing Organizational plan Financial plan
4 th Chapter	Efficiency of reorganization and measures of fulfilling the plan Organization of plan realization Criteria of efficiency estimation Operative reorganizational controlling the Possible risks in the process of implementation The sums of possible risks Possible additional incomes

According to formal features reorganization can be realized without usage of a new capital and with the usage of a new capital.

Reorganization without the usage of a new capital can be realized in such forms:

- diminishing of nominal enterprise capital;
- conversion in an own debt;
- conversion in property;
- prolongation of terms of debt payment;
- the voluntarily diminishing of the debt;
- self-finance.

With the usage of a new capital the reorganization can have such forms:

- alternative reorganization;
- diminishing of nominal capital with its next increase (two-stage reorganization);
- an irretrievable financial help of proprietors;
- irretrievable financial help of personnel;
- emission of conversion state bonds;
- bringing in of additional loans.

According to the sources of financial resources mobilization we distinguish autonomous reorganization (personal funds of enterprise and capital of his proprietors) and external reorganization (money of creditors and states). Also we distinguish the separate type of

reorganization - with the help of state support. State financing of reorganizational measures can be realized on compensational and non-compensational bases. In addition the state can be succeeded to the indirect methods of assistance to reorganization (tax deductions, creation of the special terms of entrepreneurial activity).

18.10. Ethics and etiquette in business

One of the reasons of ineffective communication is judgment about the phenomena, events, people from the subjective positions. The preconceived notion quite often hides from personality reliable information that can create an erroneous situation in a business communication and conduces to destruction of mutual relations with people. Refusal to listen criticism and claims stipulates ineffectiveness in a communication. Critics can show a man where he\she is wrong earlier than friends will do it.

In a business communication there are great losses from the lack of ability to listen an interlocutor. The repeated negotiations are held, journeys, the additional letter with the clarification of not to hear out information are sent, the shipment of production is redirected. As a rule, verbal message that is sent from fellow-labourer to fellow-labourer can be disfigured. As a result office workers feel removed from a management, feel uncomfortably in a communication. They lose interest to work, if a manager does not listen to their ideas.

To be an effective listener or to have an attractive image testifies that interests an interlocutor, it means to own the receptions of understanding listener, such, as:

1. Attentive silence, minimum answers.
2. Appeal to the speaker for making more precise
3. Reiterations of interlocutor opinion by his own words.
4. Results of key points of interlocutor.
5. Aspiration for reflection of interlocutor's words by own feelings.

Business conversation is a non-formal action, it is an effective communication of employees, that is getting of business active information, general search, effective development of working ideas and intentions: control and coordinating of the already begun business measures, support of business contacts; stimulation of business activity of employees and, finally, effective prosecution with image.

No wonder that an effective communication or communication in the field of modern business is one of the most serious and well-known problems.

One of typical situations of business communication is a method of visitors or clients, in this situation you can be one who accepts, or one who makes a call. First-ever moments during meeting are major.

If you are at the working table, get up, go round a table, offer hand for a handshake and offer a visitor to sit down. If you meet a client or are on a visit elsewhere, you should be in a place of meeting in time. Time for the conversation will come, when you both sit down.

When you make a business visits, remember, that everyone will be glad to see you, if you create in a owner a feeling of significance and separate him on the 1st place. Rules that should be observed by you, when you make a business visit:

- do not enter at a cabinet, if man, that interests you, is absent in a cabinet or busy in conversation with someone;
- certainly ask about the presence of time for you;
- never sit down, if your visit has brief character;
- stipulate duration of visit, if you assume that you have come for a long time;

- do not take what is placed on a table;
- hang an outerwear on a general peg or on back of chair;
- certainly wait till invitation to sit down;
- if offer doesn't come, then it is possible to sit down, but not to stand;
- wait, until somebody will pay attention on you;
- hold a paper in hands, and put a brief-case near yourself on the floor, the ladies bag can be hung up on the offered chair.

Because of the fear to get a negative answer: "no time" many people are rather afraid to ask about the presence of time for conversation. Practice shows that all depends on intonation of question, from how you ask. If you ask with a tone of a policeman on a examination, you will surely get a refusal. Ask with a respect – then you will probably get an answer that they have time or not so much time. One and another answer will satisfy you.

During meeting in the business world ordinary is a handshake and exchange of business cards. Mainly try to present yourself and the other. It is better to make a mistake, than ignore a man.

The junior in a rank is presented the first. If you present a third person, firstly appeal to the highest in the rank. Client is an exception. Remember, that higher in the rank will not be higher than a client. Name the surname, name and paternal of every person. Sometimes there are situations, when it is necessary to present yourself. Feel free, but also do not be obtrusive. Present yourself in such situations:

- when you've got to such situation where you don't know anyone;
- when you are not presented by someone;
- during the dinner, when some stranger is sitting next to you;
- if you feel, that your name is forgotten;

During the business conversation is not acceptable to name your regalia. It is necessary to name the sphere of your activity and the reasons of your location here.

After your presentation, it is necessary to make a handshake. In a n active business world, handshake is the only allowed way of body contact. It is important to observe some rules, that are related to this way of greeting, during the 1st communication.

During a handshake try to avoid wrong gestures: touching a person, moreover to nose, twitching a leg or moreover shift from one foot to the other. You must remember that in business world all other touches to a person are forbidden. It is intolerable to put your hand friendly on the shoulder of a person, with this action you will spoil the 1st effect about you, and the consequences can be unpredictable.

By the character of a handshake a lot of specialists in non-verbal communication can foresee the qualities of foreknown partner. Pay attention to a handshake of your partner and then, maybe, you will guess his\her intention.

Languid, exanimate hand that is given for a handshake, shows the weak character and insufficient sureness. Contrariwise, too strong handshake, to finger crackling , is a peculiar feature of aggressive person. He understands that by his action he causes discomfort and even pain, but does it on purpose, with the intention to demonstrate his force and ability to strangle you.

Quiet and balanced people with an adequate self-appraisal give a hand firmly enough. If you feel, that a hand, given in such a way, satisfies you – you see a confident person, which knows what he\she wants, and is able to conform to another people. If a "hardening", "wooden" hand is given to you, then a man which greets with you, never makes compromises that requires, which demands that the other make compromises. If a handshake reminds fascination and you pull up the hand, to

feel freed, - you see the partner, which has proprietary instinct. In general it is necessary to remember, that many people negatively react on such handshake, feeling encroaching upon the independence. Therefore, not to make your partner to be guarded, it is not recommend to shake his hand too strongly and too long.

When a person doesn't want a closing in, he can demonstrate truncated handshake – only the tips of the fingers are given to the partner, defending the rest of the hand from the capturing. Given in such a way, strongly closed fingers demonstrate arrogance and disdainful relation. If a partner shakes not a whole given hand and only the tips of fingers, he wants to avoid a close contact and wants to keep a distance.

The manner of given a hand also demonstrates the relation to future conversation. If your partner after the hand slightly bends a body ahead, he wants to have a conversation with you. If the body stays straight or slightly turns away and the head is raised, you can think about arrogant relation to you. The direction of fingers is also very demonstrative. If a hand is given straightly ahead, that is the hand is a continuation of a forearm – it demonstrates the relation as to equal, the fingers are directed down – demonstrates the relation in a haughty manner, the fingers are directed up, the hand is given from below – shows humility and subordination. Also when someone wants to demonstrate power and predominate position, the hand is given with the flat of the hand down. Such aggressive-commanding handshake can be counteracted in such a way – instead of expected adaption (you give your hand with the flat of the hand up) you can cover the partners hand and shake back side or wrist.

After a handshake you can give business card with a confident motion. You should prepare it in advance and also a pen and notebook, not to have a fussy look during the meeting.

Business cards are divided into several types with proper information on it: firm, business, for negotiations, personal and family.

Cooperative or firm business cards are used, when organization has a great number of clients. Your surname and position must not be on your business card.

Personal, business card has such form of design: firm, logo, name, surname, position, only coordinate of a worker.

Business card for negotiations or short meetings: only surname, name and paternal. On personal business card you can write not only work but also personal coordinates, also positions and ranks, that you have on this moment.

Use our recommendations, how to give or accept business cards:

- it is desirable, that the junior in the rank gave a business card;
- after the acceptance of business card it is necessary to give thanks;
- read at once aloud, what is this man's name.

Use the business card for invitation, gratitude et cetera. Do not forget that postscripts must be done in the third person in a singular in left lower corner. If your last name, name and patronymic is printed on your business card on a center, farther is position and job, down on the right and on the left it is possibly to print your coordinates. In such case there is an interval between position and coordinates. Write in left of this interval from a hand: "Congratulates.", "Thanks you.". you can hand the business card at any business meeting. It is necessary to remember, that it is impossible to begin an exchange of business cards during a meal; you should always have a business card with you; if you meet with the group of partners in composition with your own group, then unnecessarily to offer to the business card to each person, it can be perceived as a desire to sell anything. A business card can be added to the documents, which you are sending.

The professionals of business communications know that not always it is enough to be polite and dressed accordingly. You must be ready to find out etiquette behavior in many business situations that arise up. Business-etiquette has clear rules, that regulate behavior in the situations of conflict, ability to accept criticism and reproofs and do them, and also compliments and encouragements.

How to criticize:

- certainly in loneliness;
- to talk impersonally;
- concretely, without generalizations;
- not to assume destruction of relations, but direct criticism and reproofs only for advancement of work.

If there are situations during what you must express a critical remark to the inferior or express a strict reproof, use quiet tone of voice and self-possessed language. Necessarily begin from a positive aspect in the done work. If you want a criticism to be structural, adhere to such sequence: report of praiseworthy-teaching character; report of corresponding correcting-instructive character; upon completion is the clearly put task.

How to perceive criticism:

- never deny;
- hear out;
- do not be sorry;
- do not criticize other employee;
- be responsible;
- express sympathy and willingness to correct defects;
- if criticism becomes the too personal, do not answer similarly.

How to compliment or express gratitude:

- be sincere; express compliments only publicly;
- a compliment must touch business;
- be short;
- do not do comparing to other worker.

How to accept compliments:

simply say "thank" you, quite senseless and moreover insincere will be phrases of type : "it cost me nothing ", " is it perfectly done"?!

How to conquer the real respect in the process of communication with inferiors?

Good manners of behavior are everyday good relationships with people and abilities to care of them.

The most important, that you should take into account everything:

- give thanks in public, criticize in loneliness;
- mark original ideas and payments in common deal;
- write encouraging messages;
- try to produce a general command spirit for inferiors - in fact exactly your personnel presents your company to your clients;
- when you give instructions and explaining to the inferiors, make sure, that employees got everything right.

Requiring certain behavior, be an example. Do not do generalizations in remarks. Try to adhere quietness, even in intonations.

When you come on a conference, do not afford:

- to draw geometrical figures in a notebook, moreover funny faces, don't twist pen in fingers;
- take off elastics from pencils, invert the sheets of record book;
- to chew gum, candies, even special mint;
- to ask coffee or mineral water, while will not offer;
- if on a table drinks or meal already stand, then quickly get rid from them, to make a workplace of meeting clean;
- demonstrate energy and deepening in work;
- a conference is a wonderful place, to show that you one of members of command.

An important moment is an unwritten rule of meeting of administrative vehicle - it is impossible to sit down before the arrival of a person of higher rank. Only after a person arrives and gives a sign, all other can sit down.

The main is that telephone conversation must be private. Only in the most critical situation you can ask for a phone of another person. Memorize that mobile conversations require payments. Being at the business meeting, conference, lecture or in other public place (theatre, restaurant), switch off the telephone or leave in position "vibration without a sound". Use a mobile telephone in a public place only when it is really necessary for you. On the business meeting, if you must hold your telephone switched on, tell colleagues about it.

If it is necessary to call by phone during the public meeting, step back in the separated place. Talk as quiet as possible, if you are surrounded by people. Maybe your conversation seems interesting to you, but to your colleagues it may seem obtrusive.

It is very important to know in business-etiquette, about what it is not accepted to ask, what themes are not allowed to touch, if you are just colleagues. Sometimes there are situations, when people set senseless and inappropriate questions. For example, about your salary. Do not answer in sharp tone and do not read a moral about good behavior. The simplest method is to ignore a question and continue conversation about businesses. If someone obtrusively continues to ask about it, simply look intently into the eyes to the interlocutor and say: "I would not like to answer this question".

The discussion of next themes can negatively affect your personality, try to avoid them.

Themes that cannot be discussed:

- bad news;
- belonging to certain religion;
- policy;
- your health;
- your promotion or absence of it;
- cost of things;
- errors of others and gossips.

Themes that can be discussed:

- interesting films;
- latest news of favourite kinds of sport;
- theatricals, exhibitions that were opened in a new season;
- good restaurant, that you visited;
- new achievements in sphere of science or industry;
- mutual friends life of that must change for the best;
- celebrities that are going gather to arrive in your city.

Questions that business-etiquette does not recommend to set in the process of communication:

- age, especially older 30;
- about superfluous or insufficient weight, cosmetic operation;
- pregnancy or absence of children;
- avoid questions about a divorce, disease, sexual life;
- if someone in your presence accuses in dishonourableness your absent friend, in a correct form say such: "I do not think that it is a true";
- if someone says vulgar jokes on sexual themes, it is recommend to say: this "theme not interesting to me" - and simply go away.

Assuming any improper remarks, savouring of any bad news or vulgar jokes, you very quickly will show yourself from negative side.

A wonderful place for an informal communication is a business evening-party. You will always be able to enjoy it, if you take advantage of some advices. During an evening-party do not transfer all conversation on yourself. But also do not be boring, showing all kind, that you are not very much comradely man. Perfectly, if you possess sense of humour, and to be a good interlocutor is simple, it is only necessary to be able to listen attentively and be sincerely interested in a man with his communicate.

Mainly – memorize, that if you have nothing to tell, then the best variant is silence.

Expression: "Smile - it professionally" is very actual in business-etiquette. The simplest and the best method to express the goodwill to surroundings is to smile to them. First train before a mirror, that your smile was natural. It is not a necessarily to build grimaces or widely stretch a mouth.

A smile will help you not only to relax, flinging off a constraint but also will create a good mood to you and surroundings.

In the process of verbal communication smile, the contact of eyes has primary value. A smile allows to say to the surrounding you people without words: I am pleased to see" you, "I am glad to have possibility to talk with you, because I like you ".

With a smile, you will better treat people. You will learn to control or rule yourself. A person, who smiles is happy to see other rarely, after 40 years gets what he\she deserves – dissatisfied or tired look.

Eyes are thought as a mirror of a soul, and is a center of conversation. In the process of that you better cognize and perceive an internal "I" of interlocutor. Take next recommendations into account.

In a public place with unknown people a contact of eyes must last no more than 1-2 seconds, then you must transfer a look to other object, or to smile.

In a business communication with a partner or client duration of continuous visual contact increases to sixty seconds. Socially acceptable is a look considered in the limited area of person. It is not recommended to drop a look below of knot of tie or jugular hollow placed ahead in basis of neck. At the beginning of communication we set the brief contact of eyes with an interlocutor that in the process of communication recommences periodically.

Exactly acceptable - to "go" with a look in the area of triangle the corners of that the external cut of eyes and tag of nose serves. Periodically proceeding the contact of eyes, you show to the interlocutor the personal interest and inspire him to continue conversation. But it does not mean to stare in eyes to each other. Duration of visual contact must not exceed ten seconds, otherwise your intent look can cause confusion for an interlocutor.

In civil etiquette it is accepted to skip a woman. In business-etiquette you always go ahead, if meet a client. A guest must go ahead of you only in that case, if he knows your working territory well, also a chief must go ahead.

Rule of doors – an going out always take advantage before an entrance.

In business-etiquette he who appears nearer to the doors enters the first, for an economy of time, or you can skip the chief - ranging.

When you enter a group, then the most cultural is appearing the first at doors, to skip all.

Rule of elevator - in offices an elevator is examined as a transport mean. Thus, who nearer and on the right, that enters the first. If you enter at the filled elevator, then greet with all who is there. Try to stand a face to surrounding, but it is not accepted to examine them. The first leaves, who is nearer to right part of doors.

Car - there is a representative place in a business car - back on the right, certainly, if after a helm of driver. If after a helm chief, then the honoured place - front on the right, id est alongside with him.

Conferences - during realization of conferences there is the self honoured place - on the right of leader, while in civil etiquette is an opposite place on other edge of table. Sitting down is necessary only since guidance took the places. If you on some reason were late - it is not accepted to knock, greet and explain reason. Be quietly sorry and quickly take the place.

Performance on presentation:

- Greeting and presentation. It is very important to say words that unite you and audience: the "Hello, my name is... As many of you, I work";
- Emotional attitude toward the audience. In this case will suit phrase: "I am glad to be here and I am pleased to see you, because";
- Information about the theme of presentation;
- Explanation of aim of your presentation;
- Appeal to interests of audience.
- Regulation.

Basic part

Basic part of presentation consists of professional information of a product, services, company and problem in the whole. If presentation is devoted to the commercial product or services of commercial type, you necessarily must use an emotional appeal to the audience benefit. To explain, why it is advantageous to memorize, to purchase a product, undertake those or other actions. This technique is advantageously used in professional sales, but no less professionally to use it on business presentations.

In fact an undoubted fact is that positive emotions arise up in an audience, when conversation with it is conducted by the language of its benefits, necessities and desires. For this purpose always talk to the audience the language of their values. Count 5 elements, which satisfy.

1. Connecting phrase: "It will allow you".
2. Benefit that will be got by an audience.
3. Question of concordance: "Is it interesting to you?"
4. Pause as possibility for an audience to say something.

Conclusion

Completion of presentation is the most meaningful part of presentation. It must be very convincing and strong.

In accordance with the rules of business-etiquette and presentation to finishing speech must enter:

- Appeal to the action.
- Noticeable quotation (it is not bad to read "Collection of the best quotations").
- Lining of conversational results.
- Compliment of audience.
- Words of gratitude.
- Suggestion to set a question.
- Final must be a word "Thank you".

Basic principles of tactics, behavior and language on presentation:

- Your language must answer not only the professional level of audience but also status of present on presentation people, to the standards of business-co-operation in this industry. Id est it does not cost to talk identically to the group of physicians, scientists and sportsmen, large businessmen and managers;
- sense of humour is peculiar not to all people. If you see that part of audience inadequately reacts on your humour and jokes, better don't use them. For "peculiar feature" of languages choose an interesting historical fact or put the element of drama;
- watch, that a back was a straight, gestures - expressive, voice – clean;
- For maintenance of interest vary a volume, tone and rhythm of language every five minutes;
- Tested rule of successful presentation is that it is impossible to contain more than two meaningful ideas during 20 minutes;
- As experience shows, in a few days people remember only twenty percents from that you said. Think over, what 20% you would like, that they memorized;
- At first take time on a question and answers and inform an audience about it;
- If possible, stand all performance.

Internal appearance consists of such components: business suit, shoe, hair-do, well-groomed hands and posture.

CHAPTER 19. MARKETING

Objective of studying the subject is to help the future students-managers to form the scientific world views and special knowledge from the theory, methodology of marketing, to elaborate the skills and abilities for realizing managerial responsibilities at the enterprise on the basis of marketing for satisfying consumer needs and providing the enterprise with the efficient activity.

Subject: general rules of the marketing development in the market stipulation, the system of the marketing at the enterprises.

The task: to acquaint future managers with the terminology, conceptual machine of marketing and to guarantee its understanding by the students; to arm the students with the system of knowledge in the sphere of theoretical, methodical, informational base of marketing; marketing investigations; needs and demands; market segmentation and consumers' typology; commodity, price, enlargement like the elements of the marketing system; to secure understanding of the marketing methodical set of instruments by the students, mastering the skills of the critical innovative approach concerning the views evaluation which are stated in the special methodical literature as to the marketing, running marketing channel at the Ukrainian enterprises and the elaboration of the proved proposals as to its improvement; to secure the elaboration of skills and abilities, introduction and using marketing in practice of the enterprise activity; to teach the specific method of behavior and active marketing activity in condition of the dynamic marketing surrounding; to secure students interest in the active educational and research work.

Content modules:

Module 1. Theoretical basis of marketing:

Topic 1. The nature of marketing and the development of its conceptions.

Topic 2. Marketing as an open mobile system.

Module 2. Methodical and informational base of marketing:

Topic 3. Forming of the marketing informational system on the basis of passing marketing investigations.

Topic 4. Studying consumers' needs and behavior and the choice of specific segment.

Module 3. The system of marketing: nature and content:

Topic 5. Commodity (goods) in the system of marketing.

Topic 6. Price in the system of marketing.

Topic 7. Expansion in the system of marketing.

Topic 8. Communication in the system of marketing.

Topic 9. Marketing activity management.

Results of the subject studying: the future management specialist should be able to execute such types of the work: to elaborate the marketing plan which depends on the purposes of the activity, to form the system of marketing information for acquisition, classification and analysis of the primary and secondary information – basis for taking valid marketing decisions, to analyze the factors of inner and outer surroundings, to elaborate marketing measures with consideration of interconnection between the elements of the marketing system.

19.1. The nature of marketing and the development of its concepts

The term marketing comes from the English word “market” and is used in general to determine two notions:

- 1) One of the management functions which helps to rule the market activity and to rule finances, production, personnel and so on.
- 2) Philosophy (methodology), industrial activity of the enterprise in the market conditions.

Marketing is a kind of the human activity which is directed to satisfy the needs by means of exchange.

There are such conceptual approaches of running the business in the market conditions:

1. *Conception of manufacture refinement.* It is based on the refinement of manufacture goods (organization of the industrial progress in time and space) and the methods of its selling (the selling system). The main task is the prime cost reduction and accordingly commodity price, provision of its moderateness to consumers. However, there is always a limit to which one can improve his manufacture and sales, and sometimes later one should modify the goods or substitute it with another new.
2. *Conception of goods refinement.* It envisages increase of goods' quality, allotment of new or improved operational qualities. The main task – improvement of technique- economical goods' characteristics. But it is impossible to perfect goods without end. Sooner or later in sight will come a new one which will satisfy consumers' needs widely and more effective.
3. *Conception of commercial efforts (forces) intensification.* It is expected to carry out a group of complex measures to sale the goods at the market successfully (distribution, placement, stimulation). The principle task – to intensify the efforts which are directed to nudge consumers' attention to buy the concrete goods. However in case when the goods do not correspond to consumers' needs or requests, then in spite of all efforts they would not buy such goods.
4. *Conception of marketing.* This conception expects finding and analysis of consumers' needs and requests and satisfying them in more effective way than rivals can.
5. *Conception of social-ethical marketing.* As the previous it envisages finding and analysis of consumers' needs and requests and satisfying them in more effective way than rivals can, but on condition of simultaneous increasing prosperity in society. The main task – harmonization of manufacturer's interest (income), consumers (needs satisfying) and society (stable social-economic development; conception of the social-economic marketing is leading).

Depending on the analysis and planning horizon one can distinguish *strategic and operative* marketing.

Depending on the degree of classification differentiation of marketing measures one can distinguish *global and differential* marketing.

Global marketing includes measures for all consumers, standardized programs of goods production which are reckoned on the mass consumer.

Differential marketing is accomplished in the local surroundings with the indigenous peculiarities of consumers' distribution on the groups according to their specific interests, wishes and demands.

According to the marketing conception: *To produce those goods which are buying but do not sell that which are producing* – marketing enterprise activity should be directed on the solving such tasks:

- manufacture orientation on the satisfying of available and potential fortified with the purchasing competence consumers' demands (requests);
- demand creating and stimulation.

The main functions of marketing (marketing activity) include:

1. Analysis of the external environment and also strong and weak sides of the enterprise activity (internal environment) in the existing conditions. On this basis the determination of the commercial possibilities of the enterprise activity.
2. Carrying out the commercial researches concerning the following questions: consumers' analysis and reasons of their behavior, goods (also market capacity and the tendency of changing its

amount) competitors, providers, mediators, distribution methods and purchaser motivation, standard (level) and dynamics prices etc.

3. Working out goods ideas (the most general notions about the goods from the point of view of their usefulness for consumers and producers) and freight policy (which goods, their characteristic, quantity, and when one can begin their selling at the market, modify or take away from the manufacture.
4. Forming the system of selling.
5. Forming stimulation system.
6. Creation of the price policy.
7. Marketing management (analysis, planning, organization and control).

Depending on the scale and sort of the enterprise activity marketing service can create administration, department, bureau etc., its typical structure is given at the Fig 19.1.

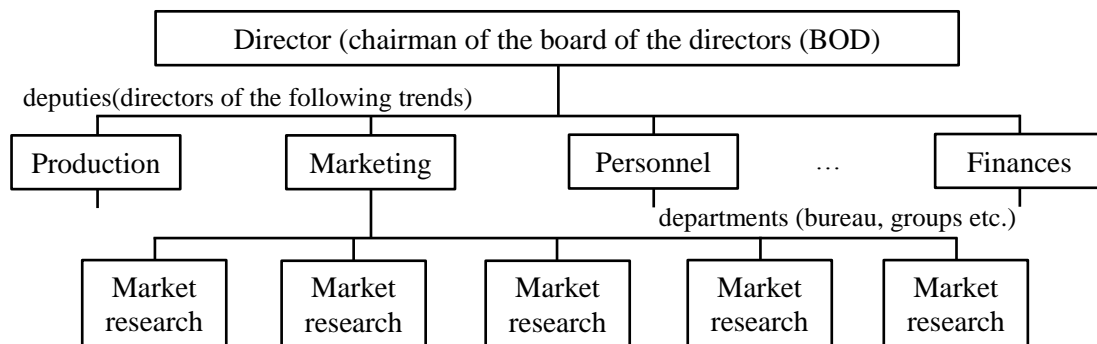


Figure 19.1 – The typical operational structure of the marketing service

The structure of the marketing service has such possible versions: *functional* (Fig 19.2) and *commodity* (in case of the wide nomenclature production, there is a group of the specialists in the staff of the structural subdivision who are specialized in the separate commodity groups), *commercial* (it is formed when the enterprise activity is oriented on several markets).

19.2. Marketing as an open mobile system

Enterprise operates in the contact with providers, mediators, consumers, competitors etc., under the competitive economic, law, social and other conditions that are under the influence of the external environment's factors. The objects which operate outside of the enterprise direct or mediated have an influence on it. Marketing includes in its nature micro- and macro-environment,

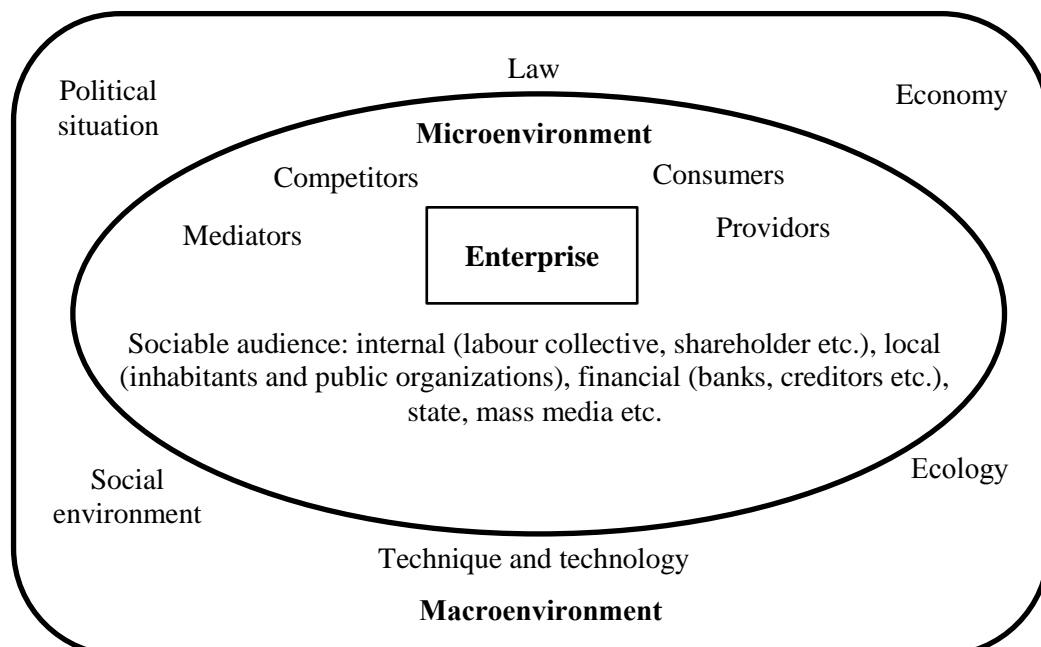


Figure 89.2 – Factors of the external environment of marketing

their main components (controlled and uncontrolled) are depicted at the Fig 19.2.

Importance of these functions is different and it will change from time to time for the specific enterprises depending on the peculiarity and conditions of but nevertheless they are fulfilled by their marketing subdivisions.

There are the following types of marketing depending on the demand at the market:

- *Conversion marketing* is used in case of the negative demand, e.g. when the consumers prefer the competitors' goods. Aim – to create the demand.
- *Incentive marketing* is applied in the situation when the consumers do not apprehend the commodity and are indifferent. Aim – incentive pricing.
- *Synchromarketing* is used in case of the demand fluctuation to smooth these fluctuations.
- *Remarketing* is held to renewal demand if it slumps.
- *Promotion marketing* – is applied for supporting the reached satisfactory level (standard) of demand.
- *Demarketing* is used for diminution of the exceeding demand because commodity producer can't satisfy it.
- *Developing marketing* is used to advance fundamentally new commodities at the market. Task-transformation of the potential demand in the real one.
- *Reactive marketing* is applied for the counteraction of the irrational demand, e.g. commodities don't correspond to the society interests (alcohol, tobacco).

19.3. Formation of the marketing information system on the basis of marketing research

Information is divided in the *primary* (is gathered by the people who conduct researches according to the imposed aim) and *secondary* (is gathered by others but you can use it in the goals of your own). Primary is more correct but its accumulation and analysis are more expensive than for the secondary one. Analysis succession is recommended: at first secondary accumulation and then making more precise of the object study – itemized researches by the way of the primary accumulation. It allows to reach the required analysis exactness on the acceptable level of the costs.

On the basis of the information, received during the research, enterprises determine their location at the market, make sales predictions, which are the basis of the current and perspective planning of their production selling activity.

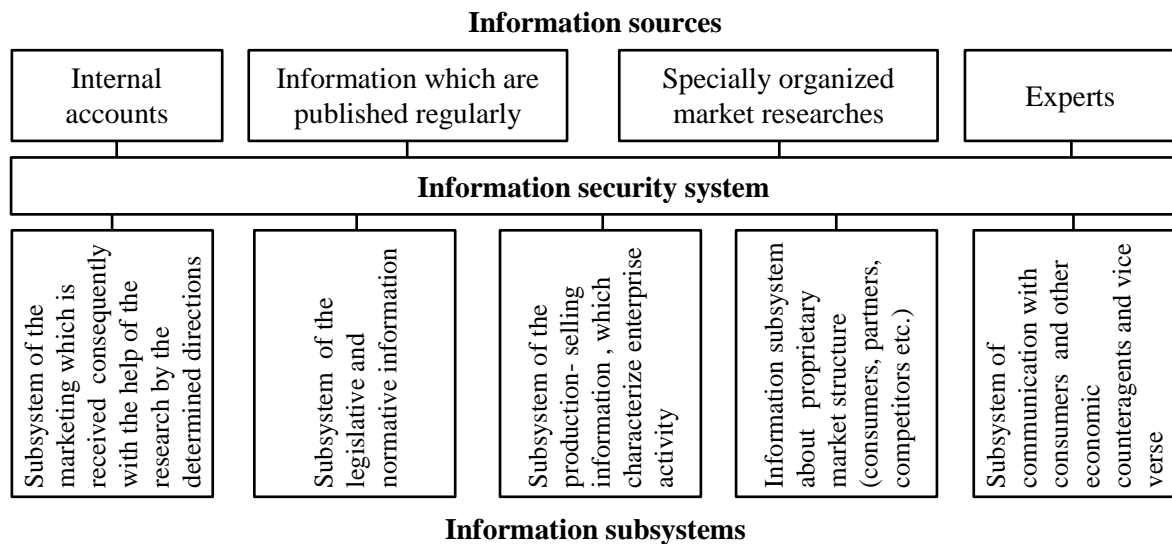


Figure 19.3 – Structure of the marketing information system

The structure of the marketing informational system is given on the Fig. 19.3.

Information sources are divided into *internal* which are inside of the enterprise and *external* which are outside of it:

1. *Internal accounts.* Allows control indices which reflect production output, amount of expenses, material reserves, level of the current selling, real money motion, information about creditor debt etc. Information sources are inside of the enterprise (data about the enterprise structural subdivisions) are available.
2. *Information about events which take place at the external environment which is regularly published and got renewed.* Information sources: serial publication, information bulletins, special of different kinds technical, economic, political literature, legislative and normative acts, data accounts of the credit-financial enterprises, computer data banks of the collective usage, information computer networks (e.g. Internet), salesmen, shop-assistants, trade agents, dealers; persons who carry out technical service and production repairs (refit); specialized organizations who are engaged in the information supply, e.g. information centers by the large libraries and research institutes etc.
3. *Specially organized marketing researches of the market environment.* Allow to accumulate and systematize information, received at the selling territory in contact with consumers, trade- and sales mediators etc.
4. *Experts are specialists and managers of the enterprise, invited persons and consumers, that is the specialists from the specific sphere.* It is possible to use computer intellectual information systems – expert systems.

The main aims of the marketing researches are: acquisition, processing, systematization and analysis of the information to take proved, effective, administrative decisions. There two main methods for information acquisition:

- 1) *method of the armchair research* - expects secondary information accumulation, which is in the reference books, periodicals, trade publications, computer data banks etc. that is which you can get without entering the study. It is used mainly for macro-environment analysis;
- 2) *proofing ground method* – is used for the primary information accumulation by means of the commodities' consumers, mediators and other market activity subjects.

There are the following methods of the proofing ground researches:

1. *Inquiry (questioning)* is accumulation of the information by help of the specially elaborated questioning letters or questionnaires. Ways of the inquiries: private, over the phone, by post, personal or collective interview etc. It is necessary to pay special attention to the choice of the questioning object and inquiring letter elaboration. You should determine inquiry object (topic of the inquiry) and how to select them, quantity of the asked, what questions and how to put them.
 - 1) *Probabilistic approach* – every sample person has the equal chances to get into the sampling, e.g. every 20th visitor of the sales-exhibition is asked everyday and during the time of its operating. To form sample statistical approach and probability theory are used;
 - 2) *Deterministic approach* – sample contingent is determined according to the inquiry convenience, e.g. every day the first 30 exhibition visitors. The former method is more exact but it is more complicated and demands more expenses.
2. *Observation* – studying and fixation of the consumers' behavior in real situations. Observation is executed secretly, including the usage of technology not to have influence on the consumers' behavior. The main drawback observers can be mistaken when appraising consumers' behavior and it may have the wrong conclusions. You may observe also subjects (shop-windows), ways of consumers motivation, commodity movement across the selling network (thanks to the dash-lines) etc.
3. *Experiment*. It demands existence of the two subject groups or phenomena which you can compare and research: experimental and controlling (two shops, commodities, consumers groups etc.). Under the controlling conditions one or two factors are changed and the results are analyzed.
4. *Consumer information panel's analysis*. It needs constant cooperation with the specially selected typical consumers' representatives. They can be given special enterprise commodities (e.g. clothes washer) on conditions that they would from time to time report on the work of the given production with the appropriate wishes as for their work improvement.

19.4. Studying of the consumers' demands and behavior and target segments selection

One of the main methods and at the same time analysis instruments of the consumer market is segmentation; aim - to determine the target market/ target segments.

Market is divided into *segments*: market's lots which are distinguished according to the specific of the consumer requests and such factors (group of factors):

- *geographic* (region, population quantity, population density, climate etc.);
- *demographic* (age, sex, family status, income's level, occupation, education, race, religion, nationality etc.);
- *psychographical* (social parting, life style, personal qualities etc.);
- *peculiarities of the consumer behavior* (degree of chance buying, interest degree in buying, loyalty degree towards commodity or its producer, emotional attitude towards buying etc.);
- *kinds of consumers* (major customers, small customers, mediators, final customers etc.);
- *productive-economic* (spheres in which customers are working, economic status of the enterprises-consumers, enterprises-consumers' scale, consumers technology);
- *peculiarities of the consumers demands* (time limits supply, form and terms' payment, mutual relations with consumers etc.);
- *consumers' references* (about goods quality, operational characteristics, marketing methods);
- *purpose-oriented instructions of the enterprise management* (to deal only with the final consumers or only with the mediators, to accommodate only with major customers etc.);

- characteristic of the competitors production;
- different factors combinations.

According to the segmentation factors quantity which are taking into consideration at the same time, segmentation is divided into single, dual and plural. The last two are used most of all. Segmentation factors choice have to ensure segmentations allotment with different peculiarities of the consumers' demands. In case of mischance segmentation is held again, after the segmentation factors revising.

Allotment and segmentation market valuation is executed by the way of the functional maps or matrix patterns construction. Example is given in the Tab 19.1. – functional map materialize the segmentation strategy, it shows market status of the concrete commodity and possible consumers.

Market segmentations which previously were determined as purpose-oriented are given in the Tab. 19.1 with some darkening – are consumers and their demands match products characteristic.

Market capacity – quantity of products with certain characteristic, which can be fulfilled at it during certain time (as a rule during 1 year).

There are potential and real market capacity. Potential can be reached if all possible consumers are embraced, the real one is determined by means of the existing volume of realization to the existing consumers. Marketing task is to bring closer the real capacity to the potential one.

Table 19.1

Determination of the market status commodity (mirror camera “Kyiv”)

Types of consumers	Production's parameters					
	price	reliability	Simplicity in usage	Overall dimensions and mass	Technical level	Variable optics
Amateurs	***	**	***	**	*	
Qualified amateurs	**	**	**	**	**	**
Press photographs	*	***	**	**	***	***
Studio workers	*	**	**	**	**	**
People who are engaged in the special types of photography (micro- and macrophotography, infrared photography etc.)	*	**	**	*	**	***
Camera's analyzed model	**	**	**	*	**	***

where * – unimportant factor; ** – important factor ; *** – very important factor

Market segmentation capacity can be calculated by the formulas:

$$C_c = P \cdot C \cdot P_{model} \cdot P_{buying} \quad (19.1)$$

where P – products' quantity of the concrete type, which can be realized at the market segmentation (for Tab. 19.2. it is one of the darkened lines), it can be determined as the quantity of the potential consumers at the purpose-oriented market segmentation;

C – coefficient which characterize frequency of the repeated products buying during certain period of time;

P_{model} – part of the consumers which prefer to the concrete product model;

P_{buying} – part of the consumers who are able financially and psychologically ready to buy certain model of product.

Value C_c can be corrected to the value growth of the purpose-oriented market segmentation by including in it value's market of the market. Its growth you can determine by one of the prediction known methods.

New products which have analogues, capacity market can be determined analogically with taking into consideration corrections. For essentially new products which have not any analogues, capacity market is determined by the experimental method or by the expert values' method.

Among the others criterion of the purpose-oriented market segmentation selection the following methods are distinguished: growing or increasing segmentation tendency, works profitability towards segmentation, accessibility of the marketing channel, resources sufficiency, compatibility's degree with markets of the essential competitors, success chances'.

19.5. Commodity in the marketing complex

Commodities are all things that can satisfy consumers' demands and requests and is proposed at the market with aim of drawing attention, buying or consumption.

Valuation of commodity characteristic correspondence with the consumers' demands and requests is realized step by step:

- 1) in the process of the functioning maps analysis during the market segmentation;
- 2) by characteristic comparing of the present commodity with competitive.

Integral valuing of the competitive capacity considering all system of the apprehended parameters and their ponderability you may calculate with the formulas:

$$K = \sum_{i=1}^n B_i \cdot (1 - \partial_i) \quad (19.2)$$

$$\partial_i = P_{ij} / P_{\max i}, \text{ if larger meaning of index is better,} \quad (19.3)$$

$$\partial_i = P_{\min i} / P_{ij}, \text{ if less meaning of index is better,} \quad (19.4)$$

where P_{ij} – i - j competitive capacity index ($i = 1, 2, 3, \dots, n$) of the commodity j ($j = 1, 2, 3, \dots, m$);

$P_{\max i}$ – maximum i - j index from the all commodities' analogues;

$P_{\min i}$ – minimum i - j index from the all commodities' analogues;

B_i – ponderability coefficient of i - j index (sum of the ponderability indices is equal to 1).

According to the formulas 19.2 –19.4. more competitive is the product which value is less, the best product is equal to 0.

For example you have to do the competitiveness goods analysis (gas fired boiler) which characteristic you can observe in the Tab. 19.2.

Table 19.2

Characteristic of the competitors-products

Product	Index					
	Price, grn	ККД	Operating time, years	Weight, kg	Thermal power, кВт	Gas consumption, м³/h
A	385	80	15	120	16	2,4
Б	390	82	14	130	15	2,2
B	388	81	15	125	14	2,3
ponderability	0,25	0,15	0,05	0,05	0,20	0,30

Let's calculate integral qualities values of the every good:

$$K_A = 0,25 \cdot (1 - 385 : 385) + 0,15 \cdot (1 - 80 : 82) + 0,05 \cdot (1 - 15 : 15) + 0,05 \cdot (1 - 120 : 120) + 0,2 \cdot (1 - 16 : 16) + 0,3 \cdot (1 - 2,2 : 2,4) = 0,0287.$$

$$K_B = 0,25 \cdot (1 - 385 : 390) + 0,15 \cdot (1 - 82 : 82) + 0,05 \cdot (1 - 14 : 5) + 0,05 \cdot (1 - 120 : 30) + 0,2 \cdot (1 - 15 : 16) + 0,3 \cdot (1 - 2,2 : 2,2) = 0,0228.$$

$$K_C = 0,25 \cdot (1 - 385 : 388) + 0,15 \cdot (1 - 81 : 82) + 0,05 \cdot (1 - 15 : 15) + 0,05 \cdot (1 - 120 : 125) + 0,2 \cdot (1 - 14 : 16) + 0,05 \cdot (1 - 2,2 : 2,3) = 0,0329.$$

In descending order of the competitiveness degree the products are settled in the following way: C (0,0329), A (0,0287), B (0,0228). Graphic interpretation of the comparative value of competitiveness is given at the Fig. 19.4.

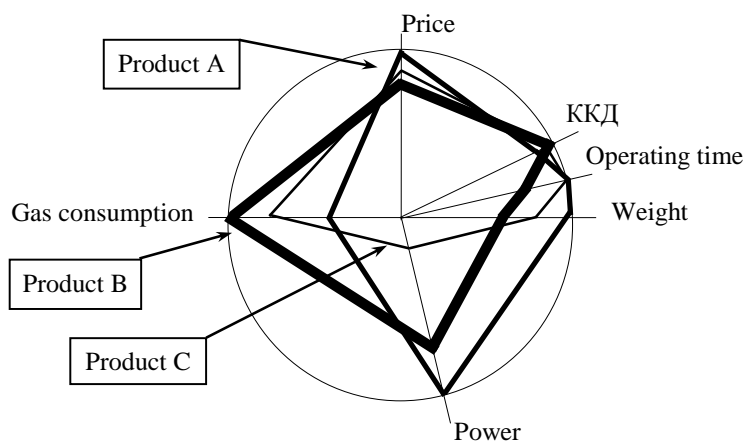


Figure 19.4 – Competitiveness cyclogram

Cyclograms are built in the polar coordinate system meanwhile the absolute value of radius vectors correspond to the reference marks of the relative parameter, calculated for the formulae 19.3–19.4, and angles their ponderabilities. Single radius vectors located on the circle are marked by the points. They correspond to better parameters meaning of the compared products (P_{\max} or P_{\min}).

Larger area of cyclogram witnesses about the higher quality level. Picture gives pictorial view what parameters bring victory or defeat to the certain product, to what parameters you should draw attention to increase competitiveness.

Choice of goods should be carried out according to the steps of lifespan of goods (the typical curve is showed on the Fig. 19.5).

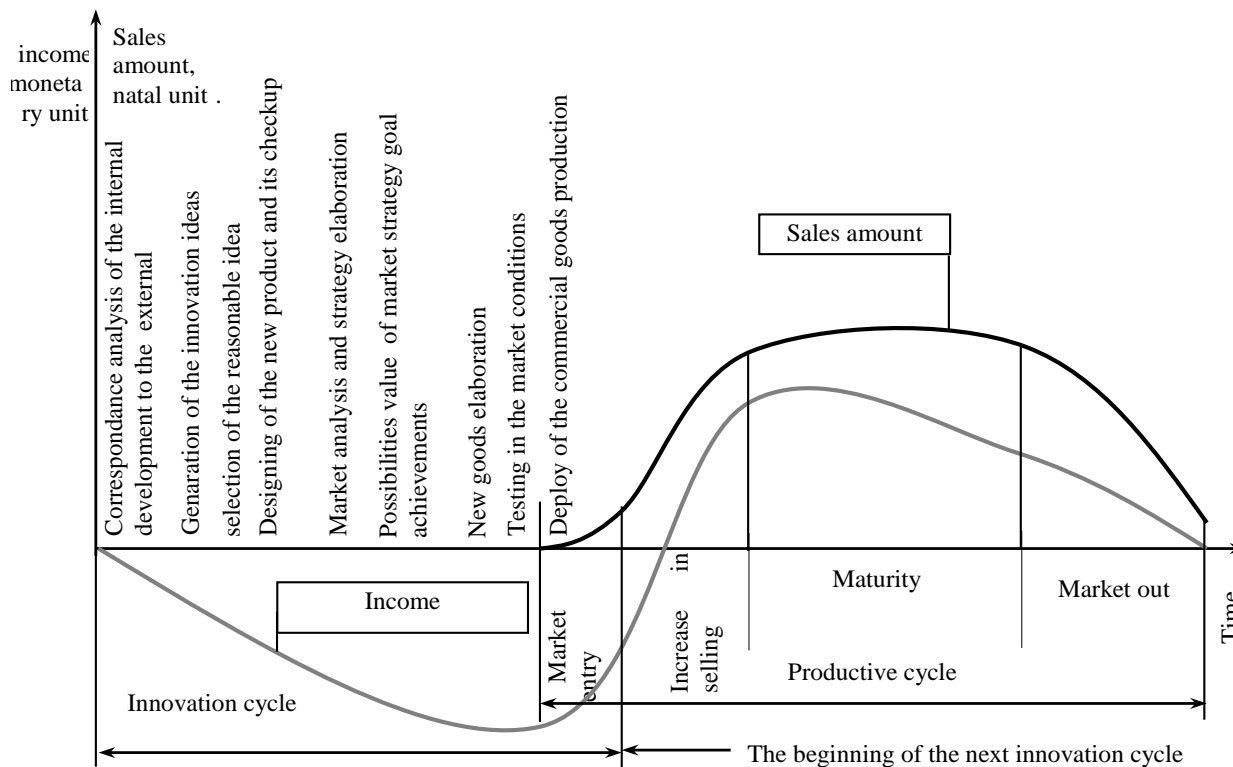


Figure 19.5 – Innovation and operating time of product

Operating cycle of product – period of time from the product’s market entry to its market out, as a rule because emerge the new goods, which satisfy consumers’ demands more effective. Stages characteristic of the operating goods cycle and certain actions of commodity producers are given in the Tab. 19.3.

Let’s observe the stages of elaboration and market goods out in detail (innovation cycle Fig. 19.5.)

1. *Correspondence analysis of the internal development to the external one* if fulfilled by the acceptable possibilities at the market with the enterprise’s potential. Aim – search for the spheres and methods of realization of the enterprise’s potential for ensuring continuous conditions of survival at the market and further development.
2. *Generation of the goods’ ideas* as the most general conception of the goods, which could be proposed at the market by the enterprise. Aim - elaboration of ideas and as much as possible, moreover it can be observed any idea and it is forbidden to damn it at this stage.
3. *Selection of ideas*. Aim – as early as possible to uncover and give up rejected ideas. An idea can be good but did not accept for the concrete enterprise.
4. *Designing of the well-planned goods and its checkup*. Ideas being selected at the former stage are transformed in the well-planned products.

Table 19.3

Specifications stages of the product life cycle and the corresponding action

Indices		STAGES			
		Market entry	Selling increase	Maturity	Market out
tics of	Selling level	low	Quick growth	Steady	decrease
	Income	negative	maximum	decrease	low
	Consumers	innovators	Separate market segmentation	Mass market	outsiders

	Competition	Slight	increasing	A lot of competitor-followers	decrease
	Prices	Depending on price strategy	Differentiation and fluctuation	Steady	decrease
	Quantity of the goods marks	One or several	Rapid growth	Some new modifications	Rapid decreasing
Corresponding actions	Strategy	Market enlargement	Ingress at the new markets	Market part keeping	Payment increase
	Marketing expenses	high	Specific decrease	decrease	low
	Marketing emphasis	An intimate knowledge with new goods	Preference for one of the marks	Loyal to "their" mark	Selective goods
	Selling network	Is forming	Is widening	Emphasis on the selling intensification	Orientation on the specific consumers groups
	Orientation on the consumers	Earliest explorers	The first followers	Main type and outsiders	Specific groups
	Strategy in the goods elaboration	First class market opener	Leader's following	Streamlining field; accompanying goods	Market group's goods out

The well-planned goods – idea which is expressed in the simple and obvious notions for consumers. Process of the well-planned goods' designing includes 3 levels (Fig. 19.6).

It is necessary to value alternative well-planned goods and to choose the best one. It involves plan's approbation at the potential consumers, for instance, by the way of their questioning: is this plan understandable, how do they appreciate it, what are advantages of its use etc.? Answers help to determine the advantage of the goods and form the **image of the goods** - imagination which formed in the consumers about the imaginable or potential goods.

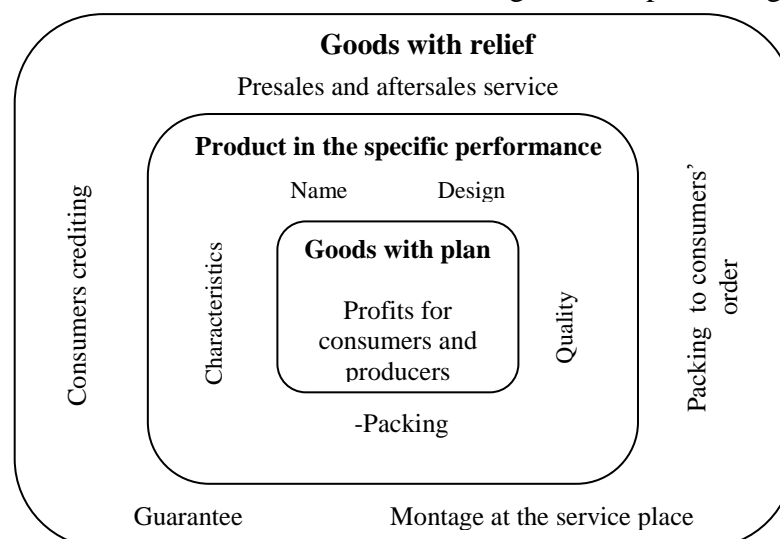


Figure 19.6 – Levels of representation design goods

5. *Market analysis and development of marketing programs (plan) to promote the product on the market.* Designing a marketing program is the result of scientific and practical market research, resulting in defining target consumers (or its target market segment), projected sales volumes and patterns change, developing measures of marketing (formation of commodity, pricing, communication and marketing policy), plan a marketing budget, assess effectiveness and determine how to control the marketing program.

6. *Analysis of production and sales possibilities.* Assess the possibility of achieving defined in the marketing program performance and commercial attractiveness of the new product."
7. *Designing of a product.* Develops design and technological documentation and sometimes offer product samples for testing to consumers.
8. *Tests in the market conditions.* Small batches of goods are made and delivered to the target market. Goods and marketing program are reviewed in close to real situations to reveal the attitude of consumers and intermediaries to product features of its implementation and use, to clarify the capacity market. Test methods vary depending on the type of product and market.
9. *Deployment of commercial production.* Successful tests in market conditions are the basis for a final decision on whether the deployment of a new product.

A significant number of stages of development and introduction of goods on the market, of which only the last 3 good ideas find its physical embodiment, necessary in order to detect possible errors or eliminate them, because the cost of each phase increases nonlinearly.

19.6. Price in complex marketing

Marketing pricing policy - the choice of measures of general approaches to pricing, pricing of new products and those "that are already at the market, in order:

- increase sales volumes, turnover (sales orientation);
- increase profitability and increase profits (profit oriented);
- strengthening the market position of the enterprise (focus on the preservation of existing satisfactory state of affairs in the market)

Market price is formed under the influence of many factors, the main are shown at the Fig. 19.7. The average market price is given among the main factors. It means that the price has certain dualism, that is its level depends on the market situation but the situation depends on the price level (price is the determiner of the market situation).

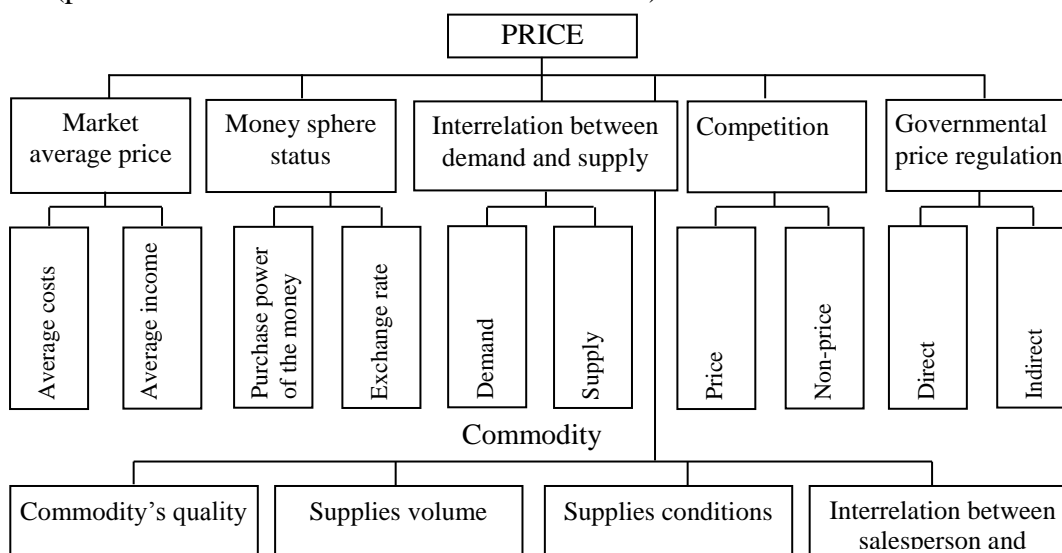


Figure 19.7 – The system of pricing factor

Prices at the market are unchangeable. Their level may change and vary. Depending on the changes and factors' character that provoke them there are:

- *Longtime tendencies* of the prices level changing under the influence of scientific and technical progress, natural factors, government policy, monopoly etc.
- *Intermediate tendencies* of the prices level changing under the influence of changes in different phases of the economic cycle (revival, boom, crisis, depression) interrelations between demand

and supply.

- *Short-term tendencies* of the prices level changing under the influence of seasonal and casual factors.

There are used such marketing factors for promotion the goods at the market:

1. High prices strategy. Expects at first commodity selling for the high prices which excels their prime cost and then gradual price reduction.

This strategy is used by the enterprises which occupy a high position at the market when there is a high production demand. Aim – income maximization until the market becomes an object of the competitive struggle. It is possible in such cases:

- new commodities are protected by the patent;
 - new commodities are based on the big inventions;
 - market entry's costs at the market are too high for competitors;
 - initial raw material and materials are limited;
2. Low prices strategy (market entry) means low price selling of the commodities , which are lower from the analogies prices (if they are present at the market). Aim – to promote demand for occupying the major part of the market.
 3. Set prices strategy according to the leader level at the market. Price is fixed according to the commodity producer's price who have the dominant position at the market.

Commodities strategies which are sold at the market:

1. *Strategy of the slumping prices*. It means gradually slumping prices for an incentive pricing of the demand. It is often becomes the strategy's continuation of the high prices.
2. *Strategy of the preferential price*. It means that the market leader reduces the price at the whole production, with the aim of competitors displacing. Competitors with small market places would be forced to leave the market while the leader would have the income.
3. *Strategy of the contract price*. This strategy means giving some discounts and privileges for buying certain product when consumer follows certain requests: e.g. when consumer buys at once 3 video cassettes the 4th one he gets free of charge.
4. *Strategy of low price setting on the one of the complementary goods (if the goods don't use separately)* with an aim of incentive pricing, by the selling of the 2nd for the usual or overstated price.

19.7. Distribution in the marketing sphere

Distribution in the marketing sphere is concerned with such basic concepts as placement, placement channel (marketing) channel.

Placement is a complex of transactions associated with the real goods, works or services (goods warehousing, transportation, packaging, sorting, etc.).

The main elements of placement (Marketing, 2004) are:

- processing of orders. Provided for receiving orders from customers or the agents, checking the possibility of their implementation (availability of goods in a stock or its manufacturing capacity within the required time and in the appropriate amount)formation of the transaction and payment documents, execution of vacation documents;
- storage. Goods must be stored before its implementation as production and sales cycles rarely coincide in time. Goods are stored in company warehouses, and sales territories. Companies can have their own warehouses or rent them;

- packaging. Goods should be preserved from the external influence during transporting or being in the store. In addition, bright packaging attracts consumers, it can be used as a place to the advertisement;
- agreements with the consumers. Negotiation processes are characteristic on all the levels of the channels. Manufacturers, wholesalers and retailers are negotiating concerning the products range, prices, methods of distribution;
- receiving and shipment of goods. Can be carried out after the payment and shipping documentation. In the domestic practice - after the prior goods payments;
- maintaining inventory. The enterprise must have some stocks of the ready products, sufficient for the timely sale of its customers. Maintaining of the large stocks of restrains the capital and a small reserve increases the risk that orders wouldn't be fulfilled through the production cycles the delays caused by the breakdown in terms of supply of another part of materials are possible, so you have to make the compromises;
- *transportation of goods*. Goods can be delivered to the consumer (customer) by the company transport, by the self-delivery (by the consumer), by the transport of the outside organizations. Selection of the transport is effected according to the purposes of the placement and the conditions of the agreements, taking into account the speed, availability, cost and so on.

The system of placement delivers consumer goods to places of sale and for the goods for consumption - to an installation at the specified time with the greatest convenience for the consumers. So, *the purpose* of the placement is delivering the necessary goods to a certain place at a certain time with minimal costs.

Two *forms* of the placement are differentiated (Holoshubova, 2004):

- 1) a warehouse in which the movement of goods is interrupted because of their importation to the intermediate warehouse;
- 2) *transit* – without any breaks in their transporting from the place of production (industrial or agricultural enterprises) to the place of the sale to the ultimate consumer. According to the nature of the calculations one can differentiate the transit placement with and without the participation in the calculations. In *the transit placement with the participation in the calculations* the mediator that organizes the traffic in the transit, leads the calculations for the provider of the goods by himself for the shipped goods and in his turn, charges their cost (including premium) from the buyers-recipients. So, the mediator in this case is a creditor of the retail trade enterprises that is very beneficial for the latter ones in the conditions of the limiting of the working capital. In *the transit placement without the participation in the calculations* the role of the intermediary involves only the organization of the goods delivery.

Note that *the systems of the placement* create channels, the types of which match the types of the placement channels.

The channels of the placement (or marketing, or market channel) is a partially ordered set of intermediaries (retail and wholesale, transport-expeditionary companies) to bring the goods from a particular producer to its final consumer. That is a system where the production and responsibility for it or its property is transferred from the level to level (from a facilitator to a mediator), resulting in reaching the consumer.

The marketing channel - is the way of the product directly from the manufacturer to the consumer without any intermediaries.

The channels of the placement perform the following functions:

- 1) customers demands satisfaction by providing products and services within the desired location, of the sufficient and appropriate quality, at the best time and price;

- 2) collecting the information needed for the sales planning;
- 3) stimulation of the demand, using a variety of methods to promote by all the organizations that are in the channel;
- 4) establishing and maintaining the contacts with the actual and potential users;
- 5) increasing the consumer value of the goods and services by improving the appearance of a product (e.g., packing, equipment), facilitation of the acquisition (e.g., the delivery of the products or the possibility to buy them on credit), saving the consumers time (e.g., increasing the of number of the outlets or the use of the commercial agents), and also increasing of the convenience of the acquisition process (the creation of centers or virtual stores);
- 6) the placement organization, including warehousing, transportation and others.

The organizational construction of the placement channels can be varied, depending on the size of the enterprises, the scope of their activities, management concepts, materials consumption, economics and others.

Forms of the placement channels depend on the number of the branches and the schemes of cargo, they can be classified by many *features*:

1. By the number of the participants or levels (**a level of the marketing channel** - a mediator who acts as a proof of goods delivering and their ownership to the consumer) (Fig. 19.8):

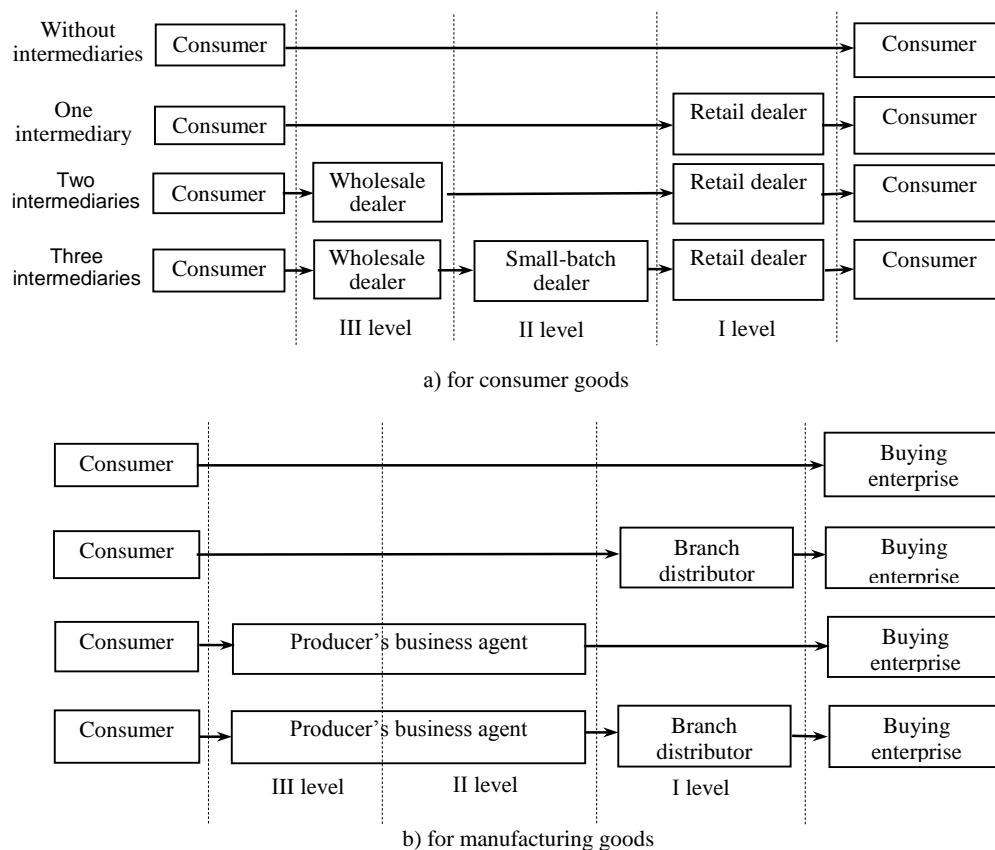


Figure 19.8 – Classification of the placement channels by the levels.

- a) without the participation of any mediators:
 - a marketing channel of a zero level (or the channel of sales, channel of direct marketing or direct channel), which consists of a manufacturer who sells products directly to consumers, bypassing intermediate stops and changes of ownership. For example the sales branches, stores owned by the producer;
- b) the participation of the intermediaries (an indirect channel):

- *short* – between a producer and the final consumers (vertical) and there is one or two intermediaries:
 - *a flat channel*, that contains one mediator (on the markets of the consumer goods – a retail trader, on the markets of the industrial goods - a sales agent or a broker);
 - *a two-level channel*, that implies the existence of two mediators on the market of the consumer goods represented by the wholesale and retail trade enterprises, on the market of the goods for industrial purposes – by the industrial distributors and dealers;
- *long* – more than two intermediaries who buy goods from each other:
 - *a three level channel* – covers three mediators;
 - *a multi-channel* that is characterized by a large number of intermediaries.

Thus, the set approaches determine the length of the channel. In addition, at the same a level marketing channel can have one participant (*narrow channel*) or more (*wide channel*). The narrow and wide channels for a one level channel are shown in Fig. 19.9.

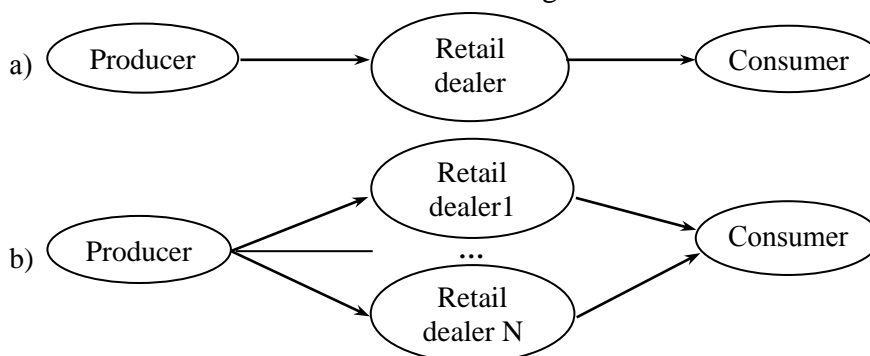


Figure 19.9 – One level placement channel: a) narrow and b) wide

2. In the direction of goods movement one can distinguish such channels (Fig. 19.10):
 - direct communication channels, characterized by the movement of goods in one direction – from a producer to a consumer;
 - reverse channels, which presuppose the existence of two flows - goods from a producer to a consumer and the recycled materials from a consumer to a producer. They are stored by stations, community groups for the days of purity, agents with soft drinks trade, experts on waste collection, recycling centers of waste procession, brokers who trade waste for recycling, centralized warehouses, waste processing enterprises.

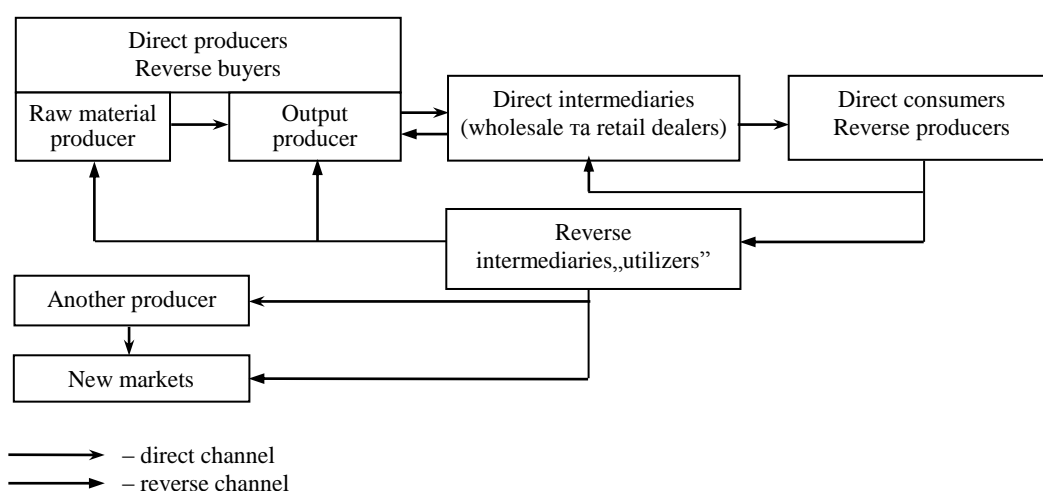


Figure 19.10 – Direct and reverse channels

3. According to the place of formation the channels are divided into:
 - external made between various companies and formed outside the company. Can be of the following types:
 - o long-term – when there are the long-term contracts between the enterprises (more than 3 years);
 - o medium-term – when there are the contracts between enterprises (1 to 3 years);
 - o short-term – when there are the short-term contracts between firms (up to one year);
 - internal – between the areas of the enterprise, which are usually cyclical and periodically updated.
4. Depending on the nature of the relations channels are divided into:
 - direct, when the trade and accompanying flows reach the consumer without intermediaries on the basis of the direct economic ties (zero level channel or marketing channels) (Fig. 19.11);

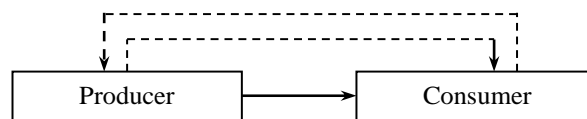


Figure 19.11 – Channels with the direct connections

- flexible if delivering of the trade and accompanying flow to a consumers is conducted both with the help of the direct connections, and the participation of the mediators (Fig. 19.12);

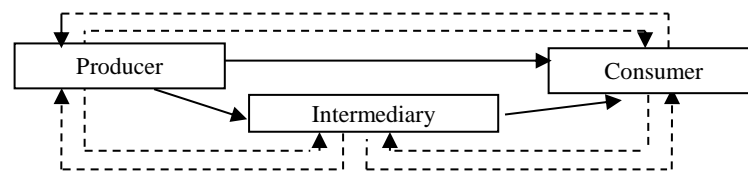
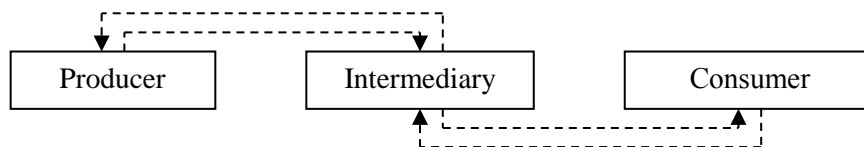


Figure 19.12 – Flexible channels



- echeloned when the commodity and the accompanying flows on the way from a producer to a consumer pass through at least one mediator (Fig. 19.13).

Figure 19.13 – Echeloned channels

5. By the time of action channels may be:
 - permanent or long - term;
 - periodic;
 - one-off.
6. According to the service markets channels are divided into:
 - global;
 - regional;
 - local.
7. For distribution of duties and powers the channels are distinguished:
 - traditional;
 - horizontal;

- vertical;
- combined.

An outline of the traditional and vertical placement channels are shown in Fig. 19.14.

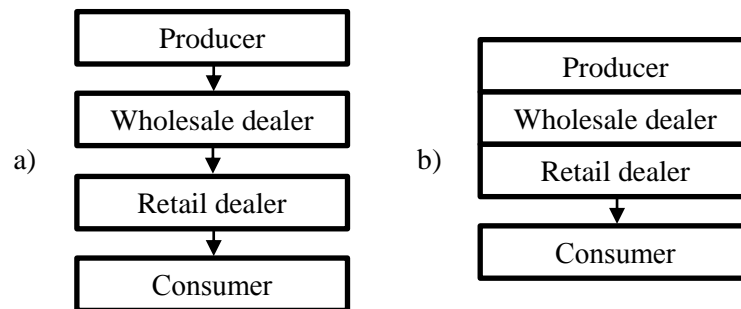


Figure 19.14 – Scheme of the traditional and vertical channels of the placement:
a) traditional; b) vertical

Traditional placement channel is a set of the independent legal entities and / or individuals who undertake or assist a third party to transfer the ownership for a specific good or service on their way from a producer to a consumer, meaning they consist of an external producer and one or more independent intermediaries.

Horizontal placement system (often called horizontal marketing system (HMS)) is inherent in combining the efforts of companies of one level to develop the new marketing opportunities. Cooperation is carried out on a temporary or permanent basis, or a separate joint venture company is created.

Vertical (often called vertical placement system (VPS)) is a set of the independent legal entities and/or individuals who undertake or assist a third party to transfer the ownership for a specific good or service on their way from a producer to a consumer and act as a single system providing effective control over the work of the whole channel, and the conflict management. It is one of the participants in the channel who is the owner of other participants in the channel, or makes them trade preferences, or provides their close cooperation.

Recently, the **combined** placement channels are developing where certain functions are rationally distributed between producer and his partner agents (Fig. 19.15).

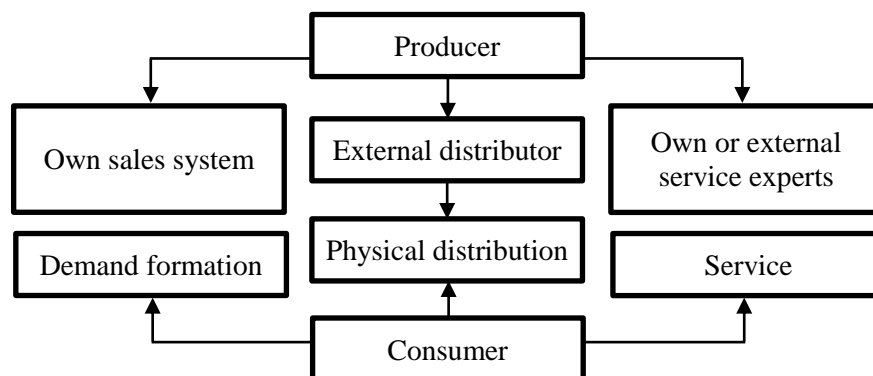


Figure 19.15 – Combined placement channels

All the members of the combined channel must fulfill their function properly, not shy away from responsibilities, relying on the efforts of others. Typically, the producer controls and, if

necessary, compensates for deficiencies in the activity of partners. Thus, for the large manufacturers it is necessary to use the optimal combination of various marketing channels.

There are such methods goods of distribution:

1. Direct sales to the consumer.
2. Sales through intermediaries, including:
 - a) *extensive* (sales through the maximum number of intermediaries, such as through the retail trade, in order to bring products to more consumers);
 - b) *intensive* (sales through a limited number of specially selected mediators). It includes:
 - *exclusive distribution* (through the implementation of an intermediary in the market);
 - *sampling distribution* (sales through several intermediaries in the market).

Each method has its advantages and disadvantages, the choice of method depends on the specifics of the company, products type, operating conditions in the market, etc. This company may use multiple methods - both in different markets or the segments of it, and on the same one.

It should be noted that in most cases markets sell their products through the intermediaries.

Intermediaries - legal or natural persons who assume or help someone else to pass the right to a specific good or service on the way from a producer to a consumer.

All intermediaries are divided into two main types:

- trade, that is, firms that provide circulation of goods, agency and marketing services;
- financial.

Speaking of the financial intermediaries in marketing we mean banks, credit, insurance and other organizations that provide enterprises with the producing financial services and insure them against risks resulting from the sale of goods, including abroad.

Speaking of the trade intermediaries we mean the legal and physical entities that stand between the producer and consumer of goods and promote their treatment: help the manufacturer to find customers and / or sell their products.

Trade (on sale) mediation covers a large range of operations with sales (export and import) of goods: search for contractors, preparation and implementation of commercial business, parts lending, guaranteeing payment for goods by the buyer, fulfillment of transport and insurance operations, customs formalities, advertising goods and their producers (or sellers), market exploration, reselling service and goods reselling improvement, storage of the products, informing sellers about future purchases, international trade etc. Certainly, in the agreements with the intermediaries all kinds of services they performed are discussed.

Mediators may be implied with:

1. *Non-exclusive right to sell*. A mediator is entitled to sell certain goods on the certain territory (market) during a specified period. Thus the commodity producer has (without any restrictions, such as paying compensation to the intermediary) the right to sell his products at this market or the other by himself or through another mediators. A mediator may also be engaged in selling the products of other producers on this market. This right is granted, if a producer steps to a new market and wants to compare the efficiency of several agents to optimize their composition.
2. *Exclusive right to sell*. According to an agreement, the mediator can sell products on the market only to a specific producer and not be involved in the implementation of other products. A commodity producer also cannot on his own or through other intermediaries sell his products on the same market. Violating the conditions, he has to pay compensation to the intermediary.

3. *Prior right of sale.* A commodity producer is obliged to offer a new product firstly to the mediator, and only after his refusal, he can offer the goods to others or sell them himself. The conditions of the refusal are discussed that prevents the market blocking.

19.8. Communication in a marketing complex

The department of management has a system of communication – a set of elements associated with the purposes, functions, organizational structure of the company, directions of the information flows, technology to transfer them, development of communication strategies in the governance. There are basic tools of marketing communications: advertising, personal selling, sales promotion, propaganda, public relations, direct marketing, each of which has its own characteristics and complements each other, creating a complex. The main elements of the marketing communications are presented in the Tab. 19.4.

Table 19.4

The main elements of the marketing communications

Instruments	The main features
Advertising	<ul style="list-style-type: none"> - expressive character, opportunity to present the product and the firm more effectively; - mass auditorium scope; - possibility of the multiple usage, ability to persuade and convince; - social character; - ability to communicate with an auditorium in a form of monologue; - necessity of large allocations
Personal selling	<ul style="list-style-type: none"> - personal character, - direct communication with an auditorium in a form of dialogue, - compulsion to the reverse reaction, - the biggest cost among all the means of marketing communications in calculation of one contact
Sales promotion	<ul style="list-style-type: none"> - attractiveness of the sales promotion means among the consumers - encouragement of the consumers for buying; - impulsive character; - short-running effect, that is inappropriate for formation of a permanent loyalty to one label; - increasing the effectiveness of the promotion means with simultaneous usage of advertisement
Instruments	The main characteristics
Propaganda	<ul style="list-style-type: none"> - intensive character; - single, non-mass auditorium scope, possibility of one-time usage; - the biggest of buying enforcement; - presence of voluntary propagandists among the consumers of the products or workers of the firm; - high trust level to suggested information
Public relations	<ul style="list-style-type: none"> - high credibility of the information, trust of the consumers to it, as it is presented in a shape of news but not announcements; - wide auditorium scope; - long-term effect; - possibility to control the information content by the firm; - often completes the advertisement, rarely exists independently
Direct marketing	<ul style="list-style-type: none"> - personal character; - direct communication with auditorium in a form of address appeals both in direct and reverse direction;

	<ul style="list-style-type: none">- high credibility of the information, trust of the consumers to it;- impulsive character;- long-term effect, directed on the formation of constant loyalty of consumers to one label
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There are various conceptual approaches to the budgeting of marketing communications (Tab. 19.5), which can be summarized in a way they distribute the total amount into the following groups:

- *"top-down"* – at first the total cost of the promotion complex is determined, which is then distributed among the elements of the complex;
- *"bottom-up"* – presupposes the budgeting separately for advertising, sales promotion, personal selling, public relations, the sum of which makes the total budgeting of promotion.

Methods for determining the marketing communications budget

Methods group	Method title	Essence of the calculation	The main features of the method	
			Advantages	Disadvantages
Depending on the inner possibilities of an enterprise	Residual	Determined by the financial possibilities of an enterprise in a short-run period	Basis is the real money	Used when advertisement tasks are absent
	Technical	Determined on the basis of analyses of profitability threshold of the advertisement expenses	Allows to determine the price growth limits with the income saving	Entirely calculating approach
	Method Of budgeting formation as a certain interest from the sale volume	Established as a rule for 10% and this money is directed for promotion of the goods to the consumers	Based on the results of past activity and the future selling forecast on the bases of the discovered tendencies	The marketing principle can be disturbed, activity must stimulate the demand but not be the result of it
	Method oriented on the common marketing budget	Determined on the basis of the income the enterprise gets	Simplicity of the linear calculations	Residual principle of budgeting for advertising
	Method to identify the budget per a unit of the product	Determined in relation to the price of the good	Used if the structure of the mix of a firm and sales demonstration are stable	Limited use
	Method to identify the budget within the available money	Defined as the balance after deduction of the total income of the production costs, fixed costs that do not depend on the volume of production and are not marketing related	In disposal the money received	Beyond the inverse relationship between advertising costs and sales
Methods with the market orientation	Method of the common part in the market	Calculated on the basis of the relationship between advertising costs and change in the market share (for example, the formula of Pekem budget has to overcome in 1.5 times the market share, which is expected in 2 years)	Used when bringing new products to the market	Used in industries with similar products
	Empirical methods (experimental, repression)	Costs are determined experimentally	The funds are spent the most effectively	Depends entirely on the accuracy of these data-out (statistical cal, experimental mental)
Methods on the basis of the communicative tasks	Budget of the contact	Based on the advertising costs that meet the intended target of the audience coverage	Simple calculations	The dependence on the financial state of an enterprise

	Budget of the influence on the perception	The costs of the promotional tools that allow consumers to achieve a certain status (cognitive, emotional, behavioral) are determined	Costs are determined according to the chosen strategy	Not always the communicative impact is related to the effects on perception
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19.9. Management of marketing activities

Strategic planning is one of the main functions of strategic management which is a process of the managing decisions on strategic foresight (of strategies), resource allocation, adaptation to the external environment, internal organization. F. Kotler defines the strategic marketing planning as a management process of creating and maintaining a strategic fit between the goals of the enterprise, potential opportunities and chances in the field of marketing.

Therefore, the *purpose* of the strategic planning is a prerequisite for effective company activity, improving the reaction of an enterprise on market dynamics and behavior of competitors, and the *subject* – issues which products, directions (strategic spaces) should be mastered by a firm and the manner in which this can be done.

The *value* of strategic marketing planning is as follows:

- 1) is a basis for planning of the other types of business, a part of the business plan;
- 2) maintains a focused way of thinking and actions;
- 3) coordinates decisions and actions in the field of marketing;
- 4) informs the employees about the goals and necessary resources;
- 5) motivates the employees, if the objective of the enterprise depends on achieving its personal plans (salary, career, prestige);
- 6) creates the grounds for evaluating and monitoring the results of marketing activities.

Marketing operative planning

When making the operational planning, the nearest company targets are transformed into the current program activities, budgets and profit plans that are brought to each unit of the enterprise, in every unit the operational control over their implementation is established. Current programs and budgets with profits plan provide some guidance for the operational units in the process of the viability of the current operations.

Operational plan is a process of concretization of the strategic plan, which specifies:

- financing;
- investments;
- marketing;
- procurement;
- staff;
- results.

The main tasks of the operational planning of marketing:

- identifying the additional goals that specify the marketing strategy;
- developing a budget cost to estimate each specific program:
 - o advertising;
 - o market research;
 - o creation of the new products;
 - o distribution;
 - o pricing;
- implementation of the specific marketing programs;

- control over the marketing activity and determination of its effectiveness;
- adjustment of the marketing tactics.

Most often the operational plans are an integral part of business plans and have the certain structure:

1. Introduction – the current situation.
2. Situation analysis – trends of the last period.
3. Objectives: the requests from the consumers, the volume and the share in the sale.
4. Marketing Strategy: market segments, positioning, choice and range, price and discount strategies for the specific markets.
5. Marketing program according to the *marketing-mix* (the marketing complex).
6. The control and adjustment of the marketing - the algorithm, structure, organizational structure, inflation.
7. Marketing budget – the total amount and distribution into the units.
8. Additional materials – tactics, alternative strategy, results.

Besides the refinement of the strategic plans as a form of the operational plan and business plans, there are some individual programs that may also be highlighted separately.

Organization and control of marketing

Control of the marketing activity – periodic, comprehensive, objective verification of marketing firm for the implementation of some corrective actions that achieve their marketing goals.

There are three levels of marketing control:

- 1) the level of the firm;
- 2) the level of the marketing unit;
- 3) the external level.

Control of marketing *at the organizational level* aims to obtain the information needed to assess the effectiveness of marketing and making the appropriate decisions by the leadership of the organization. The results of the monitoring are monthly reported at the board of directors. This type of control is intended to assess: the effectiveness of the strategic plan and the annual plan of the organization marketing, progress in the marketing activity, the ratio: prices - costs - revenue, results of the development of the new products.

At the *departmental* marketing level the marketing control is exercised on a continuous basis. It aims to assess the effectiveness of certain aspects of marketing activity for short periods of time and evaluate the competency of the management unit in the long run period.

There are no fundamental differences between the first two types of control. For example, the analysis of implementation volume is one of the areas of marketing control in both cases. The discrepancy is, rather, the level of management and how the results are used.

External control is usually carried out by consulting firms: can assess the compliance with the specific market conditions, analyze the dynamics of comparative sales and consumer attitudes to products of the organization. Audit firms can make a comprehensive analysis of the effectiveness of marketing activities in general.

Marketing control system includes four types of control: control over the implementation of annual plans, operational (current) control, monitoring results and strategic control. Let's consider them.

Control over the implementation of annual plans is compared by the marketers the current numbers to the annual plan and, if necessary – to take the remedial action. The process of this type of control includes 4 stages:

- 1) establishing the benchmarks for the months or quarters;
- 2) measurement of the market activities of the firms;
- 3) identifying the causes of serious failures of the firm;
- 4) in the case of any shortcomings to take the immediate remedial actions.

Operative (current) control aims at assessing the achievements of the marketing objectives, identify the causes of deviations, analysis and adjustment. Operational control is applied to the following indicators:

- sales (comparing fact and plan);
- market share (changing of the competitive position);
- consumer attitude to the enterprise and its products (inspection, conferences, examination, etc.).

Monitoring of the results includes:

- control over the sales and performance of analysis in the service marketing;
- control of market share;
- control over profitability.

When exercising the *strategic control* the critical evaluations of marketing activity in general are made. Marketing is an area of the rapidly aging problems, options, strategies and programs. For this reason every company should periodically reassess its overall approach. In a cyclical firm management on the principles of marketing, this control has a special place.

Maximized view of the marketing control, of the main persons responsible for its conduct, the goals of a certain control type usage, techniques and control methods are specified in the Tab. 19.6.

Table 19.6

Types and mechanisms of the market control

Types	Distinctive features		
	The ones responsible for the fulfillment	Control goal	Techniques and methods of the control
Control over the annual plans fulfillment	- senior management; - middle management	to get confirmed that the results are achievable	- sales analysis, market share, relations between the costs of marketing and sales; - monitoring the attitude of the clients
Operating (in precise) control	Head of Marketing	To determine the actual state of the enterprise	The comprehensive analysis of the current indicators
Control of the yield	control over the marketing department (as a part of marketing)	find out how the company made its money and how lost it	profitability analysis: product areas, market segments, sales channels, the volume of orders
Strategic control	- senior management; - Marketing Auditor (senior officer)	to find out whether the company uses the best of its available market opportunities and how well it is doing	marketing audit

All the types of the marketing control are completed by the drawing up of the proposals for the adjustment of strategic plans and marketing plans and management to correct the negative effects of the marketing situations.

The entire list of works on strategic control is called *the revision of marketing*, which means comprehensive, systematic, regular and unbiased research of the firm marketing environment (or organizational unit), its objectives, strategies and operational activities to identify problems and

opportunities that appear and to develop the recommendations on the plan of actions to improve the marketing.

Questions for self-check:

1. Explain the essence of the most common concepts of doing business in the market. What is the essence of the marketing concept and what is its difference from the others?
2. What are the main goals, objectives and functions of marketing? Classification of marketing.
3. What is the marketing environment? Expand the concept of macro-and investment marketing. What are the factors of macro-and micro-environment and what is their impact into the businesses in the current economic situation?
4. What are the options for the structure of marketing companies and recommendations for their formation?
5. What is the role and importance of the market research in marketing? What are the areas of market research and what are their goals?
6. What is a marketing information system? What are the main sources of information and directions for using marketing information?
7. What is the technology of the market research? Give examples.
8. Identify the segment and market segmentation. Give examples of market segments. What, in your opinion, can explain the need for market segmentation? What are the types of marketing depending on the degree of market scope (segments)?
9. What is the essence of marketing product policy? What are the key elements?
10. Identify the competitive products and methods of their evaluation.
11. What is a product life cycle? Describe the life cycle stages.
12. What is the sequence of stages of a new product developing? Describe them.
13. What is the essence of marketing pricing business? What are the main factors of value? Describe them.
14. What are the main types of marketing strategies, pricing and what is their essence? Give examples of their use in the domestic and foreign practice.
15. What is the essence of the placement and what are its elements? What are the methods of selling (distribution) of goods?
16. Give the definition of an intermediary in marketing what are their types? What are the advantages and disadvantages of the use of intermediaries?
17. What is the essence of marketing communication policy? What are the elements of marketing communications and what are their comparative characteristics?
18. What are the methods to develop a marketing promoting budget and what are the approaches to the evaluation of the incentive measures?
19. What are the nature, objectives and phases of the strategic and operational marketing planning?
20. What are the components of the control over the marketing activity on an enterprise? What is their meaning?

CHAPTER 20. ENVIRONMENTAL MANAGEMENT

Objective: the formation of environmentally oriented outlook, scientific and philosophical approaches for solving environmental and economic problems, theoretical knowledge and practical skills in forming and implementing environmental management systems on the modern enterprise.

Subject: ecological and economic relationships that arise between state and economic players, consistency with the interaction of components of natural ecological systems and social ecosystem, productive relationships between people in the process of natural resources usage.

Content modules. The conception of ecologically sustainable development. State environmental policy. Environmental policy at the global level (Kyoto Protocol, the environmental aspects of the World Trade Organization).

The environmental protection and modern enterprise. External costs of the enterprise. Environmental responsibility and business ethics. Environmental Management.

The strategic environmental management and its tools: a new philosophy of success of the enterprise, the company's environmental strategy, the basic strategies of "green" companies. International standards of the environmental management and auditing ISO 14000 and EMAS. The correlation of standards ISO 14000, EMAS and ISO 9000. The international system of environmental management standards and eco-audit EMAS. The international standard ISO 14000: the structure, the basic requirements of the standard, the development of the company's environmental policy, the business reasons for implementation.

20.1. The concept of the ecologically sustainable development

The present time demands a new, adequate evaluation of the entire complex of problems that arise in the world community. It's time to change old stereotypes of thinking that generate irresponsible attitude to the environment.

When considering a main up-to date concept of the human development - the concept of sustainable development one should emphasize the polarity of views about its meaning. The adherents of these ideas that were set out in the "Agenda of the XXI century" (Agenda 21) (the main document of the United Nations conference in Rio de Janeiro in 1992), support the program of actions aimed at sustainable development of social, environmental and economic views. These are two goals that are considered in unity. They are the high quality of the environment and the healthy economy for all nations.

Sustainable development is a development of the society when the human conditions improve, and the impact on the environment remains within the economic capacity of the biosphere. So the natural basis of human functioning is not ruining. People meet their needs without any harm for the future generations when it goes about the sustainable development.

From the moment the theory of sustainable development appeared the modern Western scientific world distributed into two groups – the adherents of technocentrism and the adherents of ecocentrism (Tab. 20.1).

The environmental sustainability issues, the equilibrium usage of nature and the sustainable development are very complicated and disputable questions.

The economists from the developed countries identify the ecological balance with the stagnation of productive forces, i. e. "a zero growth".

The dynamic equilibrium as a necessary and sufficient thing is based on the antagonistic environmental changes. The level of these changes corresponds to the human adaptive abilities and does not destroy the sustainability of ecological systems in a planetary scale.

Table 20.1

Research of sustainable ecological and economic development of society				
Criterion of comparison	The adherents of techno- centrist		The adherents of eco- centrist	
	"Cornucopia "	Adaptations	The adherents of commune	Deep ecology
The level of ecological	The orientation on the economic growth at	Rational exploitation of	Preservation of natural resources	Complete preservation of

orientation	the cost of natural resources exploitation	natural resources		natural resources
Type of economy	Free market. The ecological criterions are not taken into account	Gradual ecological orientation of the economy. Market management with the help of economic instruments	Deep ecological orientation of economy which focuses on the microeconomic and logical standards. It is bolstered with the exploitation of the economic instruments	A very deep ecological orientation with the emphasis on minimal exploitation of natural resources
The strategy of management	The criterions: economic development, GNP growth	Modification of criterions considering the environmental factors and the environmental components of GNP	Zero economic growth and zero population growth	Preservation of economy and popularity
The rate of economic growth	Axiom of the technical progress absolute possibilities under the free market conditions. It ensures the absolute interchange of resources and removes all the natural limitations of development	Denying of absolute interchange. The basic postulates of weakly sustainable economic development are performed	Separation of ecological and economic criterions. The main criterion is the whole ecosystem health in general	Cessation of productive growth, moral commitments to preservation of nature
The degree of sustainability	A very weak sustainability	A weak sustainability	A strong sustainability	A very strong sustainability

The problem to ensure the levels and parts of economic law usage becomes particularly important for optimization of relationships between nature and society in the process of sustainable development. Three aspects of connection are singled out: according to the phases of production, according to economic levels (society, industry, region, association, enterprise), according to the ranks the entities and production functions (managers, specialists and ordinary workers)

The main priorities of democratic society's sustainable development must proceed from the universal values and the necessity to form the noospheric civilization. Therefore the simultaneous solution of such problems and objectives is proposed:

- the social goal is to raise the level of material welfare and employment;
- the economic goal is to ensure the dynamic growth of production of public consumption, exchange and distribution;
- the environmental goal is to restore the quality of our environment and support self-recovering properties of the biosphere.

The main methodological guidelines to achieve the sustainable development are created by both: the local rational management of nature according to the local climate conditions and the record potential of the area; and by the restructuring of industry and intra-structure of economic complex in accordance to the new social and economic conditions, and looking for new ways of financing the budget as well.

Recently, the domestic scholars have offered some interesting trends and approaches in the study of the system: nature - society - economy. Hereby the entire set of new theories and concepts is divided into the following groups:

- connected with studying of pollution impact on the environment;
- related to the environmental regulation of industrial activities;
- related to the environmental sanitation management;
- associated with the development of the noospheric doctrine by V. I. Vernadsky and the environmental management problems.

20.2. State Environmental Policy

In broad sense one should understand the environmental policy as a system of goals and actions of public authorities to ensure environmental security and meet environmental needs of society. There are two basic models of environmental policy, based on different principles of its operation. The first model operates on the principle called "react and fix" and is focused on the eliminating of the consequences of environmental violations. The second is based on the principle called "predict and warn" and is the most effective.

Environmental policy is implemented on five levels: global, national, regional, areal and local (enterprise level), which, in turn, determines the respective regional distribution of public interests in environmental protection. Each level of environmental policy has its certain functions.

Let's consider the composition of entities of public environmental policy in detail. In Ukraine, problems of nature management and environmental protection are of such bodies concern:

- general state governing bodies: President of Ukraine, the presidential administration, National Security Committee, Commission on Nuclear Policy and environmental safety of the President of Ukraine, Verkhovna Rada of Ukraine, Cabinet of Ministers of Ukraine, the high courts (Supreme Court of Ukraine, Supreme Arbitration Court of Ukraine, the Prosecutor General of Ukraine), executive administrative authorities in the Autonomous Republic of Crimea, representative bodies and local authorities;
- governmental bodies, specialized in the natural management issues and the environmental protection: the Ministry of Coal Industry, State Forestry Committee, Ministry of Health, Ministry of Environment, State Committee on Fisheries, Ministry of Agriculture, the State Committee on Oil, Gas and Oil Refining Industry, State Committee on Water Economy, State Committee on Geology and Mineral Resources, State Committee on Hydrometeorology, State Committee on Land Resources, Department of Geodesy, Cartography and Cadastre, the National Space Agency, the State Committee on Housing;
- public authorities of general competence: Ministry of Internal Affairs, Ministry of Economy, Ministry of Foreign Affairs, Ministry of Foreign Economic Relations and Trade, Ministry of Labour and Social Policy, State Statistics Committee, Ministry of Science and Technology, National Agency for Marine Research and Technology, Ministry of Finance, Ministry of Justice, State Committee on Standardization, Metrology and Certification, the State Committee on Architecture and Urban Development, the State Customs Service, Security Service of Ukraine, Ministry of Emergency Situations;
- state branch-wise bodies: Ministry of Energy, the Ministry of Culture, Ministry of Education, Ministry of Industrial Policy, Ministry of Transport, the Ukrainian State Corporation for Construction and Agricultural Construction;
- research, state and public organizations (Academy of Sciences), which include about 125 research institutions in different fields of knowledge.

So we can make a conclusion that there are a large number of institutions and bodies, which carry out environmental activities in Ukraine and therefore they require large financial expenditures which are covered from the state budget.

In general, the implementation of state influence on the processes of nature management at the enterprise leads to the protection of public interests to preserve the national natural resources and protect environment. In case when the enterprise manages the ecological processes, it pursues primarily its economic objectives associated with a lower cost of natural resources and in accordance with the increase of profits from the involvement of natural resources (air, water, forest, mineral, etc.) in production processes. The enterprise considers the measures for environmental protection from the position of comparing its financial costs and benefits.

In the conditions of market economy the main methods of ecological-economic relations are the market and public methods. Hereby the market methods (paid nature, creation of market of natural resources, improving pricing, taking into account environmental factors, stock exchanges and banks of pollution rights) have objectively limited scope of actions due to the market failure. One should consider being priority, especially in the condition of market transformations, state regulation (legal and administrative methods) and mixed government regulation to control market relations through the instruments of economic incentives for businesses parties. Purely market methods and tools include the creation of market of natural resources, the improvement of market pricing of natural resources, the banks and exchanges of pollution rights, the compensation agreements. Thus the creation of market of natural resources is expedient in the conditions of their deficit and the possibility of receiving substantial funds from their sale. The pricing problem in the economy and, especially in the industries that exploit nature, is essential for improving environmental management.

All ecological and economic instruments can be summarized by defining a common goal - to follow the absolute limit (or standard) of pollution for a certain type of waste in a separate limited region (for the unit of time). Moreover, each of these instruments should help to make the sum of the absolute number of a relevant type of waste impurities of all perpetrators in the respective region decrease to the maximum level.

The main of these tools are called restrictive (the limits and fees for pollution in our country), and certification as a market type of environmental policy instruments. Other economic methods of environmental management are: environmental standards, environmental insurance and auditing, environmental bonds, environmental and economic programming etc.

It is important not only to analyze the nature and the content of these methods but to assess them as well. Among the criteria of ecological and economic instruments they distinguish: the effectiveness of the tool, its dynamic and stimulating effect and the environmental adequacy.

The effectiveness of environmental policy instruments means its ability to force the pollutant to get any given target meaning of pollution with minimum expenses. The central criterion of assessment is to prevent contamination with minimal cost: if in the process of environmental protection a lot of resources are wasted, the benefit is lost because the wasted resources are withdrawn from the usage and directed for another purposes. When analyzing the efficiency of environmental policy instruments it is envisaged that the way of pollution reduction and the costs for it are specified in advance. The matter is whether the environmental policy tool is able to encourage firms to use this method in the right amount.

The fact that the state of environmental technology and its industrial implementation cannot be specified in advance (as they depend on many variables, including the design of environmental policy instruments), causes the question about their dynamic incentive effect, i. e. how the instruments differ in their ability to induce and implement the ecological and technological progress? The ecological and technical progress is possible when one manages to achieve the greater pollution reductions at the same costs or an equal pollution reduction at the lower costs.

The environmental adequacy of environmental policy instruments means its suitability for reliable implementation of any specific environmental standards in a particular region.

The composition of environmental policy instruments is as follows:

1. Administrative control tools:

- environmental and natural resource law and environmental requirements in general (civil, criminal, administrative) law;
 - environmental monitoring;
 - environmental standards and regulations;
 - licensing of economic activity;
 - ecological certification (marking);
 - assessment of the impact on the environment and ecological expert examination of projects;
 - ecological and resource target programs;
 - environmental audit.
2. Ecological Instruments:
- market-oriented tools:
 - natural-resource payments and payments for environmental pollution;
 - market prices for natural resources, which come into economic circulation;
 - mechanism of buying- selling rights for the environmental pollution;
 - mortgage system;
 - intervention to correct market prices and support the producers (particularly, at the markets of wastes which are recycled);
 - methods of direct market negotiations;
 - financial and credit instruments;
 - forms and instruments of financing environmental measures;
 - credit mechanism of environmental protection, loans, subsidies, etc.;
 - regime of accelerated amortization of environmental equipment;
 - environmental and resource taxes;
 - system of ecological risks insurance.
3. Instruments of moral and ethical influence and persuasion:
- education and upbringing;
 - availability of information;
 - teaching;
 - public pressure;
 - negotiation processes;
 - voluntary agreements.

20.3. Environmental policy at the global level

At the global level of environmental policy there are international and legal, political and foreign economic actions which take into account the environmental limitations in socio-economic development, preservation of existing stocks in the world of natural resources and their distribution among the countries.

Solving of problems in the system man - society - nature is impossible without ecological consciousness on the individual, group and global levels. Thus J. Forrester and D. Meadows group established the global world model in their reports of the Roman Club. This model showed five major trends of global development and their interconnection. They are as follows: rapid population growth, accelerated industrial growth, a large area of malnutrition spreading, depletion of irreplaceable resources, and environmental pollution.

At the present stage of social development the renewal of natural resources is extensive because of the technological reasons which are connected with the imperfections of mining, processing and utilization of mineral resources. Moreover, the extensive fight against the

environmental pollution is prevailing. One can give such example: the dispersion of emissions by building high chimneys (called "technology of pipe end"), which is based on the use of natural self-purification capacity of ecosystems. However, as a rule, the level of pollution exceeds the limit of this potential. And it leads to disruption of ecological balance. In addition no more than 5% of natural mined substance is used effectively, the other 95% of it is returning to the nature in the toxic form.

When solving the environmental issues at the international level, one of the main organizations is the World Trade Organization (WTO) and its previous organization - the General Agreement on Customs Tariffs and Trade (GATT).

The economic and ecological policies consider the intensification of trade liberalization and the increased cross-border capital transactions to be the emergence of new opportunities and possible risks as well. Environmental protection has become the competition factor during the past two decades. The risks for the environmental protection appear primarily due to the fact that environmental interests in the international competition are not considered to be desirable and necessary measures.

The global environmental organizational measures are required to allow the sustainable interaction of environment, economy and trade. These measures should embrace both international environmental protection agreements (e.g. The Kyoto Protocol) and voluntary minimum environmental standards of enterprises and organizations (e.g. The World Bank Standard), as well as necessary taking into account the ecological aspects in trade and financial agreements. Such global environmental organizational measures are contradictory at the same time to the rules of economic globalization, e. g. to the WTO agreements.

The problem of climate protection was recognized as a central global ecological problem. Recently, the world's leading experts have been warning that global warming which was caused by human activities can become more considerable as it was considered earlier. There appeared the new data which say this process may be already happening.

In 1992 at the UN Conference on Environment and Development that took place in Rio de Janeiro the Convention on Climate Protection was signed. This Convention jointed into force in 1994. Then numerous intergovernmental conferences took place. Hereby one should mention the conference of 1997, when the Kyoto Protocol was signed.

The first thing that was legally approved in this protocol was the obligation of industrialized countries to limit and reduce emissions into the atmosphere. Over the period of 2008 to 2012 in comparison with 1990 the EU members must reduce their emissions overall by 8%, Japan –by 7% and the U.S. - by 6%. The EU countries agreed at the same time that the total reduction of 8% should be distributed between them differently. Thus, Germany agreed to reduce emissions in a specified time period by 21%. The implementation of this protocol will be going even further at the national level: by 2005 a quarter of harmful for climate CO₂ emissions will be removed.

On May 31, 2002 the EU formally informed the UN that it has ratified the Kyoto Protocol. On June 4, Japan claimed the same. The process of ratification of the Kyoto Protocol will attract more and more attention in Ukraine.

Trade-Related Aspects of climate are:

- sale of emissions (with the discussion of whether the emissions trading complies with GATT);
- initial allocation of emission rights, as well as the authorized trade restrictions should not contradict the discriminatory principles of WTO;
- regulation of customs policy (BTA) to compensate the competitive advantages that arise after the implementation of national environmental taxes (e.g. taxes, relating to the energy consumption during manufacturing).

There are the measures at the international level as part of integrating aspects of environmental management in the strategy of economic entities. In particular, a global agreement (Global Pact, 1999) is one of the projects that was initiated by the UN, which aims to encourage and promote the model of exemplary activity of the enterprises in the areas of human rights, labor and environment.

The basis of global agreement is a complex ethical imperative that motivates to conduct private business and public affairs on the principles of openness and transparency, in pursuit of the principles of human dignity, justice and equality in the workplace today. The Global Pact is not some regulatory regime or code of conduct, it is a platform based on moral principles for joint action.

Therefore, the purpose of the Agreement is in structuring the dialogue between the UN, the economy, employers and society to improve the behavior of entrepreneurs in the social and environmental spheres. The Pact includes nine principles, which are based on the Universal Declaration of Human Rights, Basic Principles of the International Labour Organization on Human Rights at the Workplace and the Declaration of Rio de Janeiro on Environment and Development.

20.4. Preconditions for implementation of environmental management in modern enterprises

Urgency of environmental problems at the present stage of development of society is the cause of scientific developments in this area. Gradually such research areas as the economy of nature, environmental economics, economics of environmental quality, etc. has evolved - that problems of relationship between society and nature was actively engaged in economic science. In the same area environmental management got its development as the necessity of detailed study of management issues in the field of Environment and Natural Resources.

Moreover, considering the economic and environmental aspects of nature in terms of finding the harmony of society and nature should be emphasized that in the second half of the twentieth century were also actively progressing trend of formation and development of new frontier areas of scientific and integration. These research areas that have received wide acceptance in academic circles can be considered social or environmental social ecology, environmental engineering and construction ecology.

Recently a significant number of environmental sectors appeared, which now numbered about 50, in particular such as culture of ecology, ecology of mind, people ecology, ecology of social groups, the ecology of human populations and more.

In the field of ecological management theoretical results, with signs both economical and Management features, gradually found its reflection in the practical field-oriented eco-balanced development of any economic system. Thus the need for such action has received its recognition internationally. Thus, in 1993 EU-approved program of environmental management and auditing (*PEMA*), which provides for voluntary implementation by companies of Eco and publish reports on their environmental status.

In the literature one can meet various definitions of "environmental management", "environmental direction", "ecological management", "environmental regulation", "environmental policy", "environmental management and natural resources", "quality management environment" and others., which are identified, or specified certain terminology "shades" of one of these concepts.

Inside the company regarding its structural form one should speak about their own environmental management as a separate management function, by analogy with the "HR", "financial management" and so on. You can also speak from the perspective of an integrated approach, where the system of environmental management is seamlessly integrated into the general system of organization.

At the level of some individuals and groups raised above issue is discussed in terms of consciousness. Individual consciousness of relationships is formed in the "individual - environment" can be called "purely" environmental. If an individual consciousness just aimed at assessing these relations, it is rather about his ecological position. Obviously, the same can be said according to the group or social consciousness.

The emergence of science as "environmental management", primarily related to the need for new areas of governance in which all the classical management functions integrated around environmental factors, creating some management process.

According to the standard ISO 14000 for environmental management is understood as an effective initiative and activity of economic entities aimed for achieving their own environmental

goals, projects and programs, which are developed on the principles and eco-effectiveness and eco-equity.

As an interdisciplinary science of environmental management it creates optimum choices of competitive managerial decisions on environmental protection. This highlights the market orientation of environmental management of enterprises, which determines its leading position in the environmental business.

Environmental management is a management that involves advance of environmentally sound production and territorial complex and provides an optimal balance between environmental and economic performance throughout the life cycle, as the whole complex and its produced products. In addition, there are basic principles and objectives of environmental management.

The basic principles of environmental management include:

- bearing on economic motivation;
- timely resolution of problems;
- responsibility for environmental impacts resulting from management decisions at any level;
- priority environmental issues;
- prevention of the negative anthropogenic impact to nature in the production, consumption or disposal of products;
- conversion to new environmental constraints of growth of production activities;
- updated products based on social responsibility to consumers and creating "green" image in the eyes of the public;
- encourage environmental initiatives that reduce costs or contribute to profit growth.

Environmental management –is a set of principles, forms, functions, methods, techniques and management of production operations and enterprise personnel to achieve high ecological and economic efficiency.

The main functions of environmental management include:

- justification of environmental policy and commitments, planning environmental activities the organization of domestic and foreign environmental performance human resource management, management of the action on the environment and using resources internal environmental monitoring and environmental control;
- analysis and evaluation of results of environmental activities review and improve environmental management.

The environmental management system in accordance with accepted international standards definition is a part of the overall system management, including organizational structure, responsibilities, practical work, as well as procedures, processes and resources for the development, implementation, evaluation of progress and improvement of environmental policy.

In the transition to domestic enterprises operating on the basis of ecological principles should be considered so-called system of internal environmental-economic relations:

- system of these relations should be a part of the overall system of internal economic relations of the company;
- environmental standards that are disclosed to units and standards in the form of limits on emissions, discharge and consumption of natural resources should be achievable and manageable, that their activities may affect the unit value of the acceptable norms and standards;
- subdivision of responsibility for regulatory and abnormal nature must be such that if you comply with subdivision process passport regime and characteristics of clearing equipment could apply the appropriate stimulation, such as an increase in payroll due to financial reserves, and, in case of violations of Natural Resources division - the sanctions in the form of lower

payroll. Dimensions of economic sanctions should be directly proportional to the enterprise financial losses arising from this;

- units that are transmitted ecological and economic responsibility should be independent;
- responsible for the malfunction of the unit arising from fault related divisions should be compensated for their account (e.g., waste feed to cleanse more than the allowed or with high content of harmful substances). One of the most important issues in environmental protection in the modern enterprise is its incorporation of the external (External) environmental and economic costs.

Composition of complete (integrated) expenses that meet the above is shown in Fig. 20.1 (for example, chemical plant).

Also, consider the structure of ecological costs of the enterprise, which are divided into two groups: the cost of consumption of natural resources and the costs of environmental pollution. The first group costs are charged for natural resources, the costs of restoration of natural resources, concession payments for natural resources. The second group includes environmental costs: the cost of preventing pollution, the costs of compensation for the effects of pollution, the costs of compensation for loss of raw material and waste production.

It should be noted that in the modern business environment an efficient eco primarily requires substantial transformation of law and legal and regulatory framework and its adaptation to the emerged realities of the market economy.

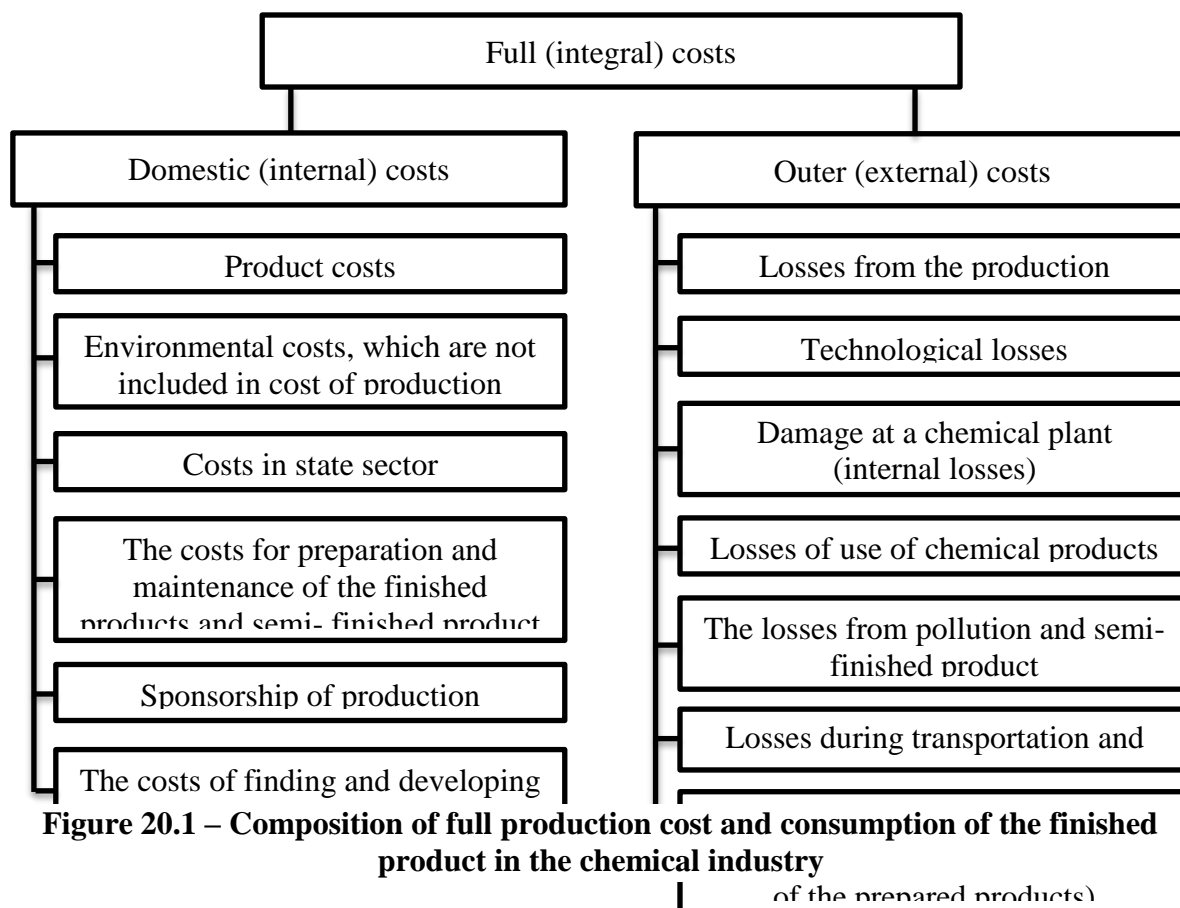


Figure 20.1 – Composition of full production cost and consumption of the finished product in the chemical industry

20.5. Socio-psychological aspects of eco-management

The object of analysis of socio-psychological aspects of management relations, especially environmental, usually is the behavior - administrative (managers) and organizational (members). The behavior is analyzed through particular situation and if it meets the objectives of the organization, i.e., the effectiveness of behavior. At the same time during the diagnosis of these

administrative situations the principles of management are derived from efficiency criterion for the study and have only descriptive value.

According to Herbert Simon, the easiest way to determine the achieved level of organization effectiveness (achieving the maximum administrative purposes at the lowest cost) is to consider an individual member of this organization and the qualitative and quantitative limits of his work (the limits of its ability to perform and make decisions):

- 1) individual, who is limited to abilities, habits and reflexes that lie outside influence of his consciousness;
- 2) individual, who is limited to the values and ideas about aims, that influence on him in the process of making decision;
- 3) individual, who is limited to the degree of accordance of his knowledge to work that he executes.

In the ecological field of administrative behavior that is manifested in the methods eco-oriented leadership is the most important factor of organizational behavior of employees (Fig. 20.2).

However, direct action to guide the organization to its employees is mediated by the presence of cultural factors that have both external and internal nature for members of the organization.

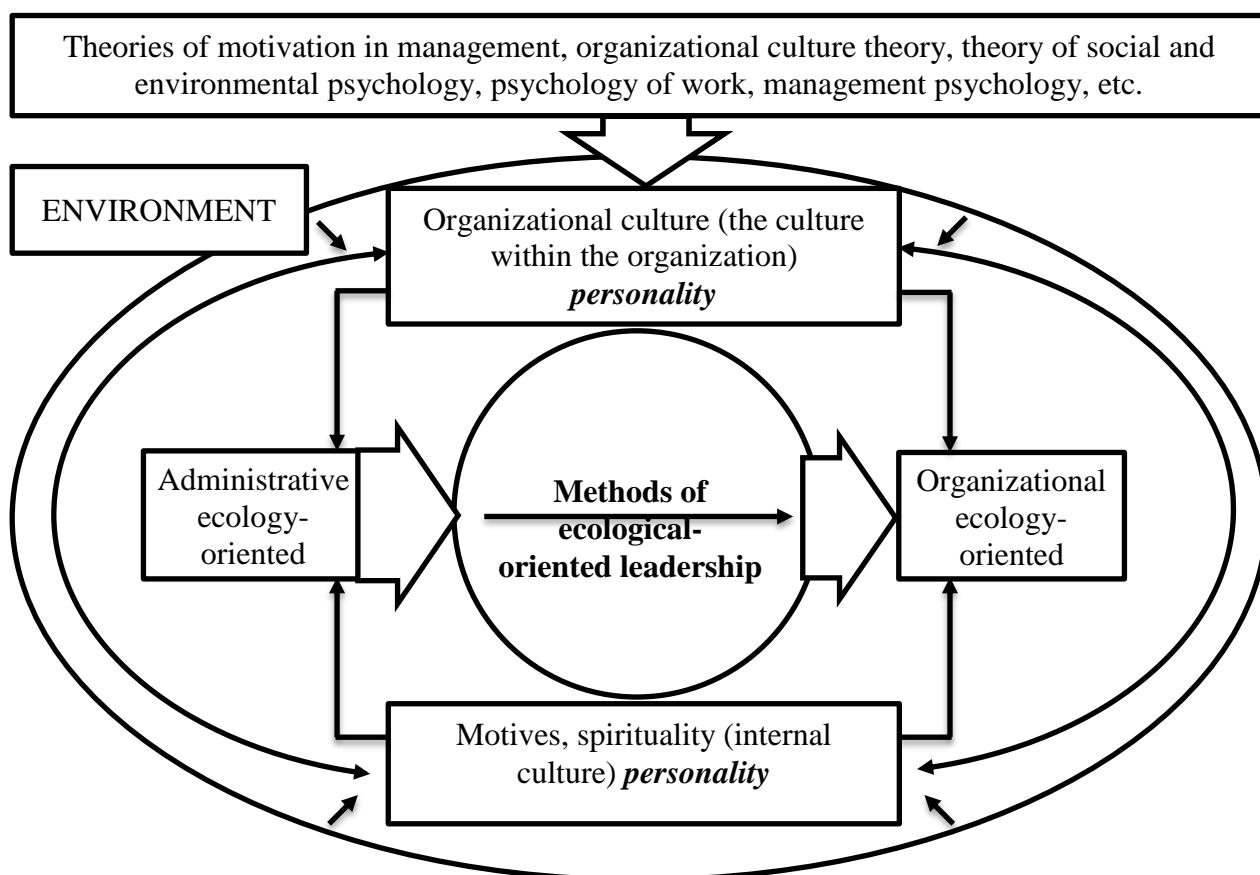


Figure 20.2 – Formation of organizational ecology-oriented behavior

As it is shown in Fig. 20.2, ecology-oriented management methods in practice are shaped by the factor of administrative organization in conceptual terms - within the various organizational and psychological theories.

Complexity of rational nature management system creation consists in purpose alternativeness of nature protection and manufacturing subdivisions of enterprise and also in different purposes of an enterprise as an economical subject and external social and economic sphere as environment user. On this basis, external and internal motivation, methods and instruments corresponding to them should be considered.

External stimulation of rational nature management of an enterprise is provided by the system of administrative, legal, economic, social and psychological methods, which should coordinate economic interests of a single enterprise and its employees with the society interests. Internal motivation is provided by organizational, prescriptive and economic methods, contents and activity character of which is determined by the enterprise within the limits of current legislation.

Incentive motives in the system of economic relations have the following structure: motives of an enterprise, motives of production development, labour and consumers' motives. Motives which are generated by external sphere belong to them too: not to remain behind the market requirements, to reveal and take into account new market possibilities of production and sale activity in time, at least not to sustain losses, and in ideal - to provide profit increase, winning greater part of market, economic increase of an enterprise in the current period and in perspective.

Domestic economic calculation, self-finance and also scientific and technical work motives should be distinguished among internal motives of production development.

Among the basic labour motives the following ones are distinguished (in descending order): high earnings, promotion chances, acknowledgement and approval of good done work, job which gives a chance to develop one's abilities, payment corresponding to the work results, job which requires creative approach, interesting job, high level of responsibility, job which gives an opportunity to work independently, hard and complicated job.

Motivation (stimulation) of new production consumption is more important taking into account modern market economy reality, when the advantage is given to the opinion of consumers, and producers have to orient their activity to satisfaction of their needs and requirements. Thus, one can stimulate production manufacturing, but if its advantages are not appreciated by the consumers, all the efforts will be vain. Consumption motives can be classified into three groups: rational, emotional and moral.

Methods of nature protection motivation of modern organizations employees are the following:

- 1) creation of ecologically conscious enterprise image;
- 2) organization of qualification improvement courses within a company;
- 3) orienting to the group forms of problem solving, which suppose sufficient freedom in the process of making decisions concerning ecological matters;
- 4) realization of ideological supply at the enterprise concerning ecological aspects;
- 5) organization of workplaces with the minimal environment load;
- 6) informing of employees about special purpose ecological indexes and expanding their knowledge about mutual dependences which exist between ecological and economic purposes.

It is necessary to mention that development of social questions of ecological and economic science originates from noospheric studies of V. I. Vernadsky.

Ecological psychology studies psychical properties of an individual, person and individuality in their mutual dependence on the properties of different level environments: physical, chemical, biotic, psychological, social, cultural, historical and mental. Synthesis of ecology and psychology takes place in the following subject industries:

- human ecology – studies regularities of human interaction with environment, problems of population quality development, health maintenance and development, improving of human psychophysical possibilities;
- labour psychology- labour is viewed as an exchange economic, social and psychoecological phenomenon. Labour ecological safety is investigated also;
- pedagogical psychology – studies the problems of ecological education and person formation problems;
- safety psychology – views the problems of ecological safety and its providing;
- geographical psychology – studies visual environment influence on the mentality, mental health and climate; studies human being as a power which transforms the nature;

- social ecology – analyzes phenomenon of ecological consciousness and its axiological aspects;
- global ecology – studies the problems of noosphere genesis and steady development;
- culture ecology – views mutual influence of cultural and civilization processes, environment condition and other.

Ecological psychology is a science which studies character and peculiarities of psychological influence on a person by natural, social and anthropogenic surrounding, mental experiences connected with this and inwardness of a person or society. Sphere of ecological psychology is not simple reflection of environment by sense organs and not just attitude to surrounding, but the influence of this surrounding, which causes complex changes – from emotions and moods to activity motives, aspirations, value orientations, deeds, advantages and wills.

The main task of ecopsychology is designing estimation methods of internal mental world equivalence and mental reflation of external world (“eicos”), and also creation of equivalence-oriented technologies.

As an example one can present a typology, built upon the principle “simple – complicated”, “external – internal” (Tab. 20.2).

Key concepts of ecopsychology are ecological conscience; environment, both natural and artificial (created by people) and social and internal (biological, mental); psychological influences both of people on the environment and vice versa.

Under ecological conscience one understands higher level of mental reflation of natural and artificial environment, internal world, reflation of place and role of a person in biological, physical and chemical world, and also self-regulation of this reflation. Ecological conscience constitutes permanent changeable combination of sensual and mental images, directly displayed and analytically created ecologically significant images of categories and phenomena which compose personal and public experience, which presupposes ecological practice.

Table 20.2

Typology of relation between “eicos” (external world) and “psycho” (internal world)

Interrelation	Interrelation contents
Simple-simple (external and internal worlds are simple)	Relations between world and a person are harmonious, but the price for this harmony is considerable resistance to changes, and in case of resistance resources depletion – it is stress. Correlates with the following qualities: conservatism, low IQ level, emotional dullness
Complicated-simple (external world is complicated, internal one – simple)	Nature and social environment adoring. Feeling of powerlessness with the circumstances. Sensitivity. Sentimentality. Externality
Simple-complicated (external world is simple, internal one – complicated)	There is no harmony. A person feels like a fighter, believes in his own omnipotence. Correlates with the following qualities: egoism, obstinacy, hedonism, rationality
Complicated-complicated (both external and internal worlds are complicated)	Personality and responsibility are highly developed. Internality and extroversion. Intellectuality. Harmony

Organization purpose choice in social and psychological aspects deals with meeting requirements of employees which causes the necessity of consideration of category “need”. Need is viewed as a unit which received its specific form in accordance with cultural level and personality of an individual.

Ecological needs are needs and desires of certain people, which are directly connected with the environment. Under the term “ecological needs” one can understand primary needs, for example, need in air, water, food and so on. Under the term “ecological desires” one can understand secondary needs of a person concerning his/her environment: for example, need in landscape contemplation, in leisure time on the sea-shore.

In general basic motivational theories projection onto the ecological and economic relations plain (that is taking into account nature management and environment protection factors in the activity of organization members, for example, preparation of water-purifying technology by a certain employee) gives an opportunity to make the following basic conclusions:

- first, some of these theories already include ecological aspects (for example, taking into account environment factors in hygienic theory of Herzberg);
- second, ecological matters consideration from the point of view of both semantic and procedural motivational theories is equally important in the process of ecological consciousness formation of individuals and collectives;
- third, modern motivational tendencies of ecology-oriented behavior testify to urgency of motivating not only employees of the organization, but first of all its administration;
- fourth, motivation specificity of ecologically conscious actions means that as a rule environment cannot be limited by a certain individual: for example, the most important human need in clear air is a general motivational factor of an organization.

One should pay attention to the following points in the process of considering separate motivational theories:

- 1) Abraham Maslow's theory: ecological needs can be considered not only as primary ones (need in clear air, water, green-labeled products), but as secondary ones also (nature contemplation, feeling of unity with the nature), that's why we need determination of ecological needs importance for each individual;
- 2) John McClelland's theory: ecological needs do not concede three basic categories of secondary needs in importance (need in power, need in success and need in participation). An example of labour efficiency increase stimulus is giving an opportunity to have a rest in ecologically clean place, if the importance of such a rewarding for an individual is high;
- 3) F. Herzberg's theory: ecological factors (environment pollution: air, water, noise pollution and so on) are the most important hygienic factors, which can cause high or low level of individual's discontent, which can influence his/her labour efficiency. That's why it is expedient to create and maintain favorable microclimate at the working place – as one of the effective socially psychological management methods. Besides these factors as the most important secondary needs of an employee can belong to motivation factors in two-factor model of Herzberg;
- 4) Victor Vroom's expectations theory: only in case if ecologically relevant actions of an employee are connected with his/her reward expectation, besides, mostly economic reward, and not connected with personal ecological needs, than he/she will carry out these actions. In case if these expectations are not justified, an employee will be less active the next time.
 - a. That's why it is very important for an organization that its environmental management is permanent and provided with sufficient stimulus. Accurate statement of ecologically relevant purposes and tasks of an organization should promote this.
- 5) S. Adams's justice theory: as ecological control executed by certain employees within the organization, as a rule, will have positive result for the whole organization (for other employees), than it should be taken into account during rewarding of particular executives. It means that environmental management should be more stimulated than an economic one;
- 6) E. Locke's theory of task setting: practical significance of all motivational theories, projected onto the area of nature protection relations, is provided only in case of ecologically relevant tasks setting. In this relation both employees and administration should set the definite task in time period, directed to the particular ecological problems solving;

- 7) attribution theory: every employee should determine his/her ecologically conscious actions. Manager's task is to make subordinates think about importance of nature protection in their lives and within the organization. From the ecological point of view attribution means identification of ecologically relevant behavior by manager and employee. Perhaps, this individual should realize his/her ecological needs, role in nature protective activity of an enterprise, and also influence of external factors on the employee's choice of his/her ecologically relevant behavior alternatives;
- 8) compensation theory: for non-management employees of modern domestic organizations money mean the most important stimulus for every kind of activity, including nature protective one. This fact contradicts majority of western motivational theories. It can be explained by the fact that with the help of money a person can fill his/her shortage in the primary needs, which are more important for an individual for survival in case if the environment is rather qualitative.

20.6. Methods and instruments of ecological management

In management sphere methods should be distinguished, first of all, into the methods of knowledge and methods of influence. And in this relation they should be sequenced system. This means, that if one method is eliminated, the whole system structure and functioning will break. This is the principle by which methods of ecological management should be classified and respective methodological system for every practical situation should be created.

The basis of ecological management methods classification is their distribution into socially psychological ("cultural"), economic ("market") and administrative ("hierarchical"); and the leading part in long-term period belongs to the socially psychological methods.

Other classifications can be considered also, namely, depending on the levels of ecologically-oriented management (state, regional, local and so on), taking into account the functional criteria (methods of organization, planning, control, motivation, coordination of ecologically-oriented behavior of organization employees); depending on the object of ecological management: for example, methods of ecologically-oriented control of the state, population, financial sphere, enterprise, organization stuff and so on.

For example, it should be mentioned during various management levels consideration, that state methods are the ones that make local authorities follow them steadily in accordance with the national and international legislation; municipal methods are the methods of control, which are realized by the local authorities independently, for example, land tenure planning, local construction regulations, actions for traffic control, local standards of environmental pollution control and so on. It is natural, that such a classification deals with first of all administrative or "command-administrative" methods.

For the purpose of detailed methodological classification creation (which includes maximal quantity of grouping moments) we should consider the present classifications from the point of view of ecologically economic instruments essence understanding.

Internal and external methods of nature management regulation are distinguished. External methods (administrative, economic and socially psychological) are supported by corresponding laws, decrees, and instructions of supreme bodies of authority. An enterprise cannot influence external methods of nature management regulation, that's why they are not an object of management for it. Internal methods (organizational and administrative, economic) are under the influence of an enterprise within the limits of current legislation.

Let's consider classification of the external economic instruments of ecological management in more details:

- 1) *tax* (preferential or discriminating): for production, harmful components, pollution sources, types of activity, recourses usage and investments;
- 2) *instruments of crediting systems* (preferential or discriminating): according to the area of activity, volume of credit, credit rates and terms;

- 3) *grants* (direct and indirect): for governmental ecological projects, risk compensation of enterprises for the leading projects, compensation of ecological technologies accelerated depreciation, grants for pollution-free production;
- 4) *ecological payments*: for pollutant emissions into the atmosphere, water resources, soils; for waste burial in the physical landscapes; for biological pollution, for physical environmental pollution (noise, electromagnetic pollution and so on);
- 5) *price instruments*: ecological and price programming, regulation, stimulation;
- 6) *payments for maintaining (achievement) of certain ecological results*: to recipients for quality decrease and environmental condition maintaining;
- 7) *ecological rights sale*: emission, activity and sale rights;
- 8) *market certificates*: ecological quotas, permission to manufacturing (sale) of certain amounts of production (services, work);
- 9) *ecological insurance*: of activity types, enterprise risk, ecological and economic consequences.

Ecological and economic instruments can be considered as means (measures, methods, key factors) for influence financial condition of economic subjects for the purpose of their activity orientation in economically favorable direction.

According to the criterion “nature of influencing economic interests of a subject”, ecological and economic instruments are conditionally classified into two groups: those which withdraw incomes, and those which increase profits. Together they establish the following forms: duty, taxes, subsidies, grants, bonuses, charges, payments, fines, market preferences; amortization, insurance, price and credit forms of ecological and economic instruments.

Let's consider administrative and legal, and socially psychological methods of nature management in detail.

Administrative methods proceed from inequality of management process participants. Administration has a right to forbid or prescribe procedures of employees, who have minimal independence, set strict limits, violation of which is not welcomed. Administration bears responsibility for everything. In practice administrative methods are realized by way of invariant tasks, activity norms, instructions, fines and so on.

In particular, amercing mechanism became widespread in many spheres of public life and activity. But the matters of ecological amercing are still under discussion. The main problems are amercing amount determination and bases for its calculation. This way, for example, availability of extralimit waste is the basis for penal actions. Amercing is established in multiple amount, meaning the minimal amount of basis payment rate.

Amercing and different penal actions for environmental abuse and pollution should become more significant in the system of paid nature management. Strict penal actions, which presuppose economic and legal liability (amercing amount should be high to have a strong influence on manufacturer activity) should be applied in case of soil destruction because of irrational usage: unauthorized waste storing, heavy metals pollution, nuclear pollution, soil destructive treatment, extra normal water and air pollution.

The most important disadvantage of administrative methods is that they are oriented on the result achievement, but not increase; they encourage diligence, but not initiative. That's why in the conditions of organization activity complication, when various problems should be solved immediately, administrative methods no longer meet the real requirements of management.

In our country ecological management is regulated by The Law of Ukraine “On natural environment protection”, which came into force in 1991, and also by other legislative acts, in which the principles of nature protection and management are stated (The Water, The Land, The Forest Codes of Ukraine; Code of Ukraine on Mineral Resources, laws “On air protection”, “On nature reserves fund” and other).

Legal mechanism of ecological management should correspond to relation settlement in ecological sphere by means of preventive, operative, stimulating and coercive measures application on nature resources and its waste usage, and also legal responsibility for ecological legislation

violation, and measures in relation to legal bodies and physical persons. Ecologization of economic legislation of Ukraine, propagation of nature protection priorities of public health to all stages of economic activity and referring them to enterprises' and establishments' duties should be carried out.

Sometimes in the classification of management methods a separate group of so called organizational methods is considered. As a rule, it is a number of organizational methods with the help of which necessary conditions for employees' work are created, and therefore these methods logically precede all the other. With the help of them the work is projected, oriented in time and space, standardized and provided with instructions which fix arrangement of people, their rights, obligations, and specifics of behavior in different situations. For example, methods of control structures formation, methods of labour collective creation, methods of different public measures preparation and implementation.

In contrast to organizational methods, administrative ones are active, because the intervention into the very activity occurs on their basis. Differently they are called the methods of power motivation and are oriented on either direct forcing of people to certain favorable for organization behavior, or on the creation of such forcing possibility.

The similar distribution of methods into organizational and administrative is fair as far as the first are considered on the level of whole enterprise, and the second concern administration, that is management of people who work at this enterprise. There is another point of view concerning this question: proceeding from the fact that all management methods are organizational, there is no need in the above mentioned distribution. In particular, taking into account above mentioned principles of administrative methods of management formation, the place of ecological structures formation at an enterprise among the group of administrative methods, which has the strongest influence on all other ecologically-oriented administrative methods, is represented on Fig.20.3.

Norms and standards are other forms of ecological management administrative instruments. Ecological norming and standardization are carried out with the purpose of complex establishment of obligatory norms, rules, requirements of environment protection, nature resources usage and ecological safety control.

Ecological standards and norms system contains interrelated limits and requirements of environment quality, and also requirements for technological and organizational-administrative processes, production and services, with the help of which ecological safety of population and manufacture is guaranteed, genetic fund maintenance and rational usage and restoration of natural resources are provided.

European Eco-Management and Audit Scheme (EMAS) and system of international standards ISO 14000 are the most approved among ecological standards.

Among the basic problems of norming and standardizing in environment protection sphere of Ukraine the following ones should be mentioned: office-work imperfection (insufficient science validity, pretentiousness and considerable quantity of documents), sanitary-hygienic norms imperfection (large calculation errors, discrepancy between certain specifications).

It should be pointed out that the very concept "standard" in its broad sense means: sample, etalon, model, which are took as original units for their comparison with other similar objects. Under the term *standard* one understands specifications and technical document. Standards fall into state (SSTU), branch (BST), republic (RST) and enterprise standards (STE). Recently The International Standardization Organization (ISO) has developed international standards (ST ISO); earlier The Council for Mutual Economic Assistance has developed its standards (ST CMEA).

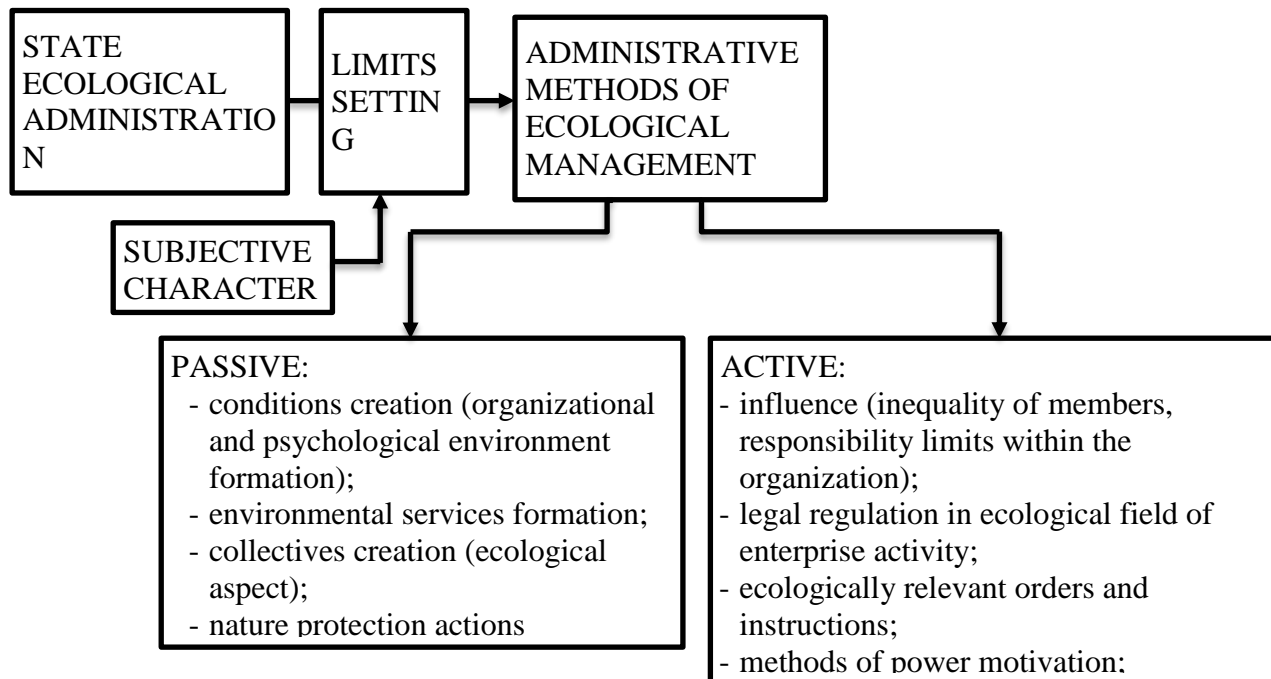


Figure 20.3 – Place of ecological structures formation method among administrative methods of ecological management

Ecological standard – is a quantitative or qualitative index of nature objects, which has legal significance. Ecological standard is one of the instruments of state legal regulation of environment quality; in accordance with it the legal regime of certain natural resources usage and ecological rules of activity in the spheres not connected with natural resources usage are established. The peculiar features of this standard type are that it has all features of legal acts, it belongs to legal system, being the second stage of development of legislative enactments for environmental pollution control (the first stage is formation of environment qualitative parameters).

In the context of administrative methods of ecological management analysis we should mention, that the first stage on the way to effective ecological management achievement in market conditions is the modification of command-administrative management methods, as the mechanism of nature protection activity unites both economic and administrative methods.

Administrative methods application is limited by controllability norm. This means that there is a limit, in case of which administrative regulation increase means high expenses increase. From the motivational point of view, world experience of application of administrative management methods testifies to the fact that forcing does not have the needed stimulating influence on enterprises (for example, atmospheric emission level decrease). That's why these methods are supplemented by economic and socially-psychological methods of eco-management application.

One of the most wide-spread eco-management methods, which as a rule is referred to socially-psychological methods, is ecological education.

For the purpose of ecological consciousness increase in society, the following measures are suggested:

- 1) according public ecological organizations a right to take part in conducting state ecological examination of projects;
- 2) organizing preparation and publication of annual reports on environment condition, nature management and nature protective activity in Ukraine as a whole, in regions, towns and districts for distribution among population;
- 3) popularization and creation of public opinion creation system concerning the questions of environment protection and nature management.

One of the main tasks of ecological psychology is scientific basis development for ecological education system in situation, when on the one hand, the first signs of information civilization birth are observed, and on the other hand – unavailability of a person, society and public

functional subsystems (for example, the general education system) to react adequately to the structure of interaction and activity, which changes fast, is becoming more and more obvious.

One of the most effective methods of socially-psychological orientation in eco-management is so-called eco-consulting, which is highly developed in the world and starts its development in our country. In this connection a subject of management is a private firm which deals with consulting in ecological management sphere; and object of management are, as a rule, organization administration, which uses the services of this firm. Firstly, it should be mentioned that the very organization is an initiator of consulting, secondly, the result of such collaboration can have both positive and negative effect on the environment quality improvement. The former case means that the firm consults first of all about the questions, which interest majority of modern organizations (priority of economy over ecology).

As to the definite meaning of the term “ecological consulting”, it should be mentioned, that there is no concrete definition of this notion.

The most wide-spread explanation of ecological consulting is connected with the whole specter of informational support services for customer’s activity by working out different documentation. Ecological examination and audit realization procedure, designing and realization of new ecological technologies, enterprise nature protection activity strategy development can also be referred to the consulting services in ecological sphere.

Under the term “ecological consulting” one understands also activity type, which provides scientific and technical, technical and economic, organization-legal training and ecological programs and projects realization support.

Among the most effective methods of eco-psychological research there are the field researches of mass ecological consciousness, that are a form or type of research of the social and psychological phenomena, related to the ecological orientation, behavior and activity of those or other communities of people in the wild existence. This, first of all, is the study of the ecologically valuable orientations of the communities of people, social or professional groups limited in space, in the natural everyday problems, usual conditions and limits of vital activity.

In the ecological management there is no one single ideal economic method. The choice of action method depends on the enormous amount of internal and external factors, i.e. situation approach is needed. Economic, political, social and cultural effects must be taken into account in every special case.

The importance of taking into account the mentioned effects, in particular, cultures (a culture of organizations is meant), must be far higher. It means in a theoretical plan, that on the modern stage of development of markets and organizations the choice of methods of ecologically-oriented management directly depends on the features of organizational and national culture of that or other state. Any method of economic, administrative or social and psychological orientation is derivative from the culture of organization. Thus in the former case this intercommunication has the closest character.

The rates of ecologically-oriented organizational cultures forming depend on few factors. The determinant one is a factor of time. The expense of resources on forming of the indicated cultures, in particular, social and psychological methods of management, must be related to the determination of current ecological tasks. These methods do not require considerable financial investments unlike the expensive administratively-observant checking systems. However their action is counted on a long-term perspective that is why the states that have sufficient investment capital in an ecological sphere can afford scientific developments of the investigated problem.

It is historically proved that transition to the ecologically oriented model of development requires time and certain economic welfare of society. But already today it is possible to create pre-conditions of ecologization through up-bringing, education, propaganda, including of questions of environment protection in the economic policy of the state.

20.7. Essence of strategic ecological management

From the point of view of integration approach, strategy of ecological management is the constituent of general strategy of organization and is built upon the principles of it.

The concept of strategic ecological management should find out ecological character potentials for success of enterprise (advantages in environment protection sphere, resources preservation, providing of ecological safety in a competition with other enterprises), and also the ecological risks connected with its activity, it should define long-term campaigns on this basis and provide their realization by application of the carefully thought out system of measures and instruments. Besides, the concept of ecological strategy, that is a link that combines an ecological policy which is based on ecological enterprise culture, and ecological program that is related to the ecologically conscious behavior, is examined.

A concept of ecological strategy (strategy of ecological management) can be defined as the specifically established set of basic principles, rules, methods and facilities of work in the sphere of environment protection and nature management, specified with taking into account types of organizational strategy, organizational potential, and also an ecological policy type, that allows organizations to achieve the long-term purposes of its development in the existing environment conditions in the most effective way.

Thus an ecological policy at the level of organization is defined the following way: ***an ecological policy of organization*** is the system of ecologically-oriented measures for the personnel of organization prepared by administration, which are used during the certain period of time with the aim of selected ecological strategy realization.

Thus, it is possible to offer such "subordination" of concepts "ecological strategy" and "ecological policy": an ecological policy is a specific concept in relation to ecological strategy. It provides existence of mechanism of the influence on employees, set within the limits of ecological strategy by methods and facilities during definite period of time for the achievement of the organization aims.

According to the international standard of series ISO 14000 an ecological policy is a combination of basic principles, intentions and obligations of enterprise that provides a basis for its own ecological aims and tasks development (ISO 14001. Definitions. 3.9. Environmental policy).

An ecological policy, as well as policy in the field of quality, must be documented, learned and clear to the personnel and partners, and also accessible to all parties concerned. These parties can be a person or group of persons, that profess interest to the ecological aspects of enterprise activity, products and services, or those, that feel the influence connected with the similar aspects (ISO 14001. Definitions. 3.11. Interested party).

An ecological policy must be considered as a primary engine of introduction and development process, improvement of the ecological management system in organization that is oriented on advancing of the ecological performance indicators. Therefore an ecological policy must represent the favor of top management, its obligations in relation to requirement conformity to the legislative, normatively-technical and other requirements, and also principle of successive improvement.

Within the limits of ecological management system organization it is necessary to set forth the strategic standard aim of nature management at enterprise. Thus two variants of such aim are considered:

- 1) ecological standards providing with minimum costs of this aim achievement;
- 2) minimum ecological costs providing proceeding from the optimal level of wastes placing in environment.

The first strategic aim is mostly oriented on public interests providing, as it foresees achievement and maintenance of environment quality in the enterprise activity zone at normative level. Thus, economic interests of enterprise can be limited, as it is possible that providing of ecological standards will cause considerable nature protection expenses and insignificant effectiveness of internal and external ecological losses prevention. As a result there is income loss. If this aim of nature management is accepted, the tasks of ecological management will consist in the search of directions, methods and facilities, that provide minimum nature protection charges on an achievement and maintenance of sizes of waste, that get into environment, at the level of the set ecological standards.

The second aim of strategic ecological management fundamentally differs from the first, as it is first of all oriented on providing of enterprise economic interests. In accordance with this aim, the task of management will be a search of such nature management variant, with which ecological charges of enterprise will be minimal. In quantitative meaning, the put aim is dynamic and changes depending on the production volume change, level of technology and amount of connected with it waste, purification degree, size of maximum nature protection charges and maximum losses of enterprise related to its placing of waste in environment.

While analyzing external factors of strategic ecological management aim choice at an enterprise one should take into account strategies of influence on economic subjects with the aim of economy ecologization realization:

- 1) Influence on supply;
- 2) influence on demand;
- 3) Influence on intercommunications between producers and consumers.

Strategy of influence on supply is forming of the motivational influence system (credit and tax privileges, grants, other economic stimuli, ecological standards and other), that would stimulate producers to transition to the "green-labelled" products.

Strategy of influence on demand - essence of this strategy consists in economical stimulation or psychological persuasion of a consumer to pass to ecologically better products.

Strategy of influence on intercommunications between producers and consumers ("interface strategy") - essence of this strategy consists in the ecologization of intermediates, which connect concrete producers and consumers. The forms of this strategy realization are the following: influence on communication ways, ecologization of trade mechanisms, marketing researches, development of the informative systems and other.

20.8. International standards of ecological management

International standards of ecological management and audit - are order and contents of works and documents in the field of ecological management and audit, regulated by international standardization organization (ISO).

As a result of decision of Ukraine to join the GATT and enter the WTO, it was the first from the countries of the former USSR which introduced the standards of series ISO 14000 from January, 1, 1998 on the territory as voluntary standards that operate in the field of ecological management.

Specification for Environmental Management System BS - 7750, worked out by the British institute of standardization upon request of British confederation of industry was introduced in Western Europe in 1992. Later analogous standards were accepted by other countries of Western Europe. In 1993 the requirements to creation of "Eco - management and audit scheme or of EMAS" were finally concerted and published. Since 1995 enterprises got a possibility to be certificated in accordance with EMAS that regulated:

- types of works from an ecological management;
- kinds and contents of necessary documents;
- right and duties of separate performers;
- estimation of influence degree on the natural environment of enterprise;
- ecological aims and tasks of enterprise and other.

International series of ecological standards of ISO 14000 (1996) was formed on the basis of EMAS standards analysis and standards of management quality ISO 9000.

General list of ISO 14000 standards contain such basic standards:

1) Principles of ecological management :

- ISO 14001 environmental management systems (EMS) - specifications and use manual;
- ISO 14004 is a common manual of principles, systems and methods;
- ISO 14014 is a manual for determination of "primary level" of ecological efficiency of enterprise;

2) Instruments of ecological control and estimation (audit):

- ISO 14010 - an ecological audit manual - general principles;
- ISO 14011/1 - an ecological audit manual - procedures of audit. Audit of the environmental management systems;
- ISO 14012 - an ecological audit manual - criteria of ecological public accountants qualification;
- ISO 14031 is a manual for ecological indicators estimation of organization activity;

3) Standards of requirements to the products:

- ISO 14020 - the principles of ecological labeling of products;
- ISO 14040 - methodology of "Life cycle estimation" - estimation of the ecological influence related to the products, at all stages of life cycle and other.

Example of standards structure comparison of the system ISO (ISO 14001 and ISO 9001) is given in a Tab. 20.3.

Specific feature of standards series ISO 14000 is that it is oriented not on the quantitative parameters (emissions volume, concentration of substances and other) and not on technology (usage or not usage of certain technologies), but on the demand to use the "best from accessible technologies". Such character of standards is conditioned, on the one hand, by the fact that standards of series ISO 14000 as international ones must not intrude in the sphere of action of national norms, but on the other hand – by the fact that a predecessors of ISO are the "organizational" approaches to the production quality (conception of "all-embracing management of quality"), according to which the guarantee of quality achievement is the creation of proper organizational structure and distribution of responsibility for quality of products and services.

Table 20.3

Accordance between ISO 14001 and ISO 9001

ISO 14001	4	4	ISO 9001
Requirements to the environmental management system (only title)		4	System of management of quality (only title)
General requirements	4.1	4.1	General requirements
Ecological policy	4.2	5.1	Administration obligations
		5.3	Policy in quality sphere
		8.5.1	Constant improvement
Planning (only title)	4.3	5.4	Planning (only title)
Ecological aspects	4.3.1	5.2	Orientation to a consumer
		7.2.1	Setting requirements for a product
		7.2.2	Product requirements analysis
Legislative and other requirements	4.3.2	5.2	Orientation to a consumer
		7.2.1	Setting requirements for a product
Aims, tasks and programs	4.3.3	5.4.1	Aims in the sphere of quality
		5.4.2	Planning of the system of management of quality
		8.5.1	Constant improvement
Introduction and functioning (title)	4.4	7	Product manufacturing (only title)
Resources, roles, responsibilities and authorities	4.4.1	5.1	Administration obligations
		5.5.1	Responsibility and authorities
		5.5.2	Representative of administration
		6.1	Recourses provision
		6.3	Infrastructure
Competence, training and consciousness	4.4.2	6.2.1	Personnel (general points)
Connection	4.4.3	6.2.2	Competence, consciousness
		5.5.3	Internal connection
		7.2.3	Connection with a consumer
Documentation	4.4.4	4.2.1	Documentation requirements (general points)
Documents management	4.4.5	4.2.3	Documentation management
Operations management	4.4.6	7.1	Planning of product manufacturing
		7.2.1	Product requirements determination
		7.2.2	Product requirements analysis
		7.3.1	Planning of projecting and design
		7.3.2	Input data of projecting and design
		7.3.3	Output data of projecting and design
		7.3.4	Project and design analysis
		7.3.5	Project and design check
		7.3.6	Project and design approval
		7.3.7	Changes management in the process of projecting and design
		7.4.1	Purchase process
		7.4.2	Management of manufacture and service
		7.5.1	rendering processes
Readiness for emergencies and reaction to them	4.4.7	8.3	Management of a product that does not meet the requirements
Inspections (only title)	4.5	8	Measuring, analysis and improvement (only title)

The basic reasons of voluntarily standards ISO 14000 introductions by enterprises are the following:

- there is a soft pressure by international organizations. For example, EU assumes to the markets only companies with ISO certificates;
- an introduction of the environmental management system gives additional advantages to the companies itself;
- ecological problems solving is facilitated, responsibility rises;
- systematic approach is provided;
- there is a possibility of charges diminishing due to the rational use of water, raw material, energy, decrease of wastes;
- conforming to the requirements of nature protection legislation is guaranteed;

- a competitiveness at the market rises;
- environmental improvement at an enterprise is achieved;
- the possibilities of "green-labeled products" markets gain;
- there is a possibility of involvement all groups and categories of personnel in the environmental management processes and other.

Environmental management system (EMS) is the basic unit of standards series ISO 14000. The very concept "system of ecological management" was for the first time clearly defined and explained in Great Britain Standard BS 7750 (Environmental Management Systems) in 1992 as part of the general management system that contains: organizational structure, planning of activity, distribution of responsibility, practical work, and also procedures, processes and resources for development, introduction, estimation of the achieved results of realization and improvement of ecological policy, aims and tasks (ISO 14001. Environmental management systems - Specification with guidance for use. Definitions. 3.5. Environmental management system).

Introduction of the system of ecological management can cause development and introduction of the management of quality system, under which one understands combination of organizational structure, procedures, processes and resources necessary for activity realization in the sphere of management of quality.

On Fig. 20.4 stages of introduction and functioning of the environmental management system are in detail represented as a scheme.

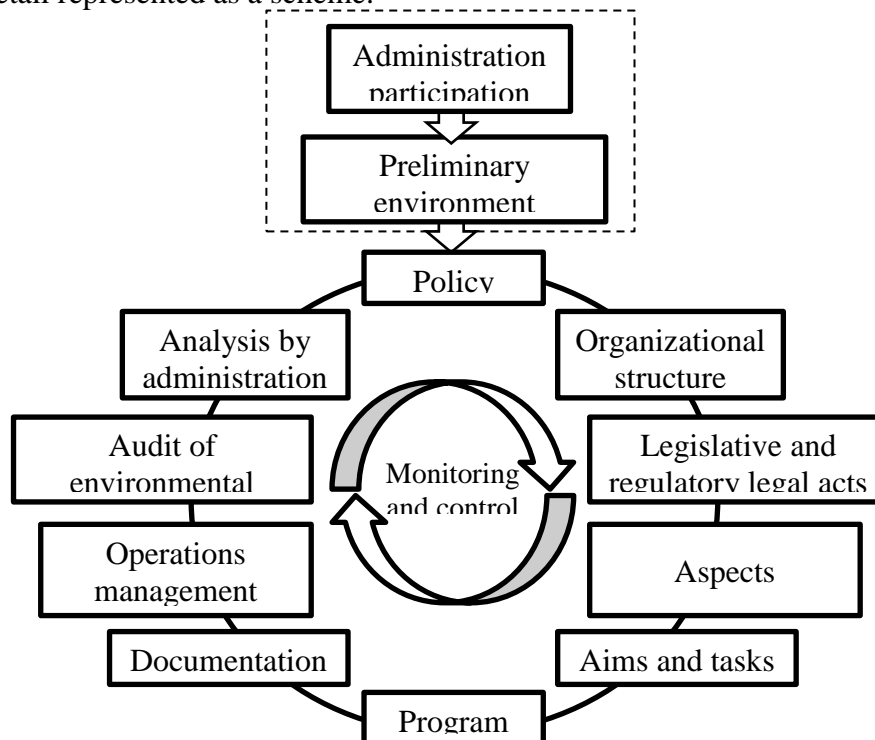


Figure 20.4 – Stages of introduction and functioning of the environmental Management system

The major process of development of the environmental management system is the process of successive improvement, oriented on the achievement of the best indexes in all ecological aspects of enterprise activity, in the spheres where it is practically possible in accordance with its ecological policy (ISO 14001. Definitions. 3.1. Continual of improvement).

20.9. Personnel as strategic resource of environmental management

One of principles of effective system of ecological management creation is involvement all categories of organization employees in its sphere of environment protection and nature management processes. While considering this question more profoundly, it is pointed out that in spite of economic difficulties, the most ponderable reason of maintenance and providing high standards of environment quality is a role of human resource in state welfare forming and its socio-

economic development. And further: in the process of transition to the new system of values and steady development a considerable place should be given to determination of role of person in these processes, - noospheric personality must correspond to noospheric society.

Methods of ecologically-oriented personnel management are internal methods of an organization from the functional point of view: personnel management is a new major function of organization management that combines the economic, administrative and social and psychological methods of work with human resource.

This statement is explained by the positive moments of personnel participation in the process of making decision: firstly, alienation of inferiors diminishes from the sphere of management; secondly, a requirement of involvement to the higher management levels that strengthens authentication of employee with the aim of organization, and also increase of the productivity is satisfied; thirdly, cognitive (informative) potential of specialists of different functional subdivisions is used in the process of making decision, that promotes quality of them.

But participation of workers in the process of making decision (for example, by creation of groups of quality) can have positive consequences for organization on condition that two important terms are observed: firstly, basic attitude of workers toward organization must be rather loyal; secondly, workers must have an access to necessary information about manufacturing process.

One of the conditions of effective operating of personnel control system on the modern stage is its conformity to the environment condition and to the organization culture.

The necessity of enterprise personnel ecologization is explained by not only factors of external organizational environment but also by the factors of internal one, in particular by the internal ecological factors of enterprise. Thus, places of warehousing of the hard production wastes, located in the territory or in a direct closeness from the industrial ground of enterprise, are the sources of enterprise territory contamination, i.e. inflict internal ecological and economic losses to the enterprise. The personnel of enterprise feel the consequences of these losses, first of all:

- general morbidity of people that work at an enterprise rises; thus one should take into account the fact that increased morbidity of people that work at an enterprise is conditioned by contamination, both in an enterprise and in the places of their habitation;
- the level of traumatism, caused by contamination of manufacture environment, rises;
- there is the professional morbidity caused by the different types of contamination of manufacture environment;
- turnover of staff rises because of dissatisfaction with the conditions of labour;
- the individual labour productivity of employees goes down in the conditions of contamination of manufacture environment.

The above-mentioned social consequences influence the economy of enterprise by means of the working hours loss, decline of labour productivity, increase of charges on warning, removal and compensation of negative consequences of contamination.

Let's consider the basic moments of personnel management from the point of view of corresponding methods of ecological orientation.

Within the limits of consideration of personal management ecological orientation one understands the "combination of methods of enterprise personnel management that serves the concordance of economic and social efficiency on a micro-level" and contain:

- 1) determination of need in personnel taking into account new ecological tasks of a firm, selection of corresponding employees and their placing;
- 2) in-plant training, retraining and increase of skilled personnel;
- 3) estimation of work productivity;
- 4) personnel management, including corresponding style of management and corporate culture designing;
- 5) stimulation and motivation of ecologically relevant behavior of personnel.

Certainly, personnel informing and involvement in ecologically meaningful activity take place in the ecological policy of both foreign and domestic companies. The fragment of the program oriented on realization of similar enterprise obligations could look like this (Tab. 20.4).

Table 20.4

Personnel informing and involvement in environment protection and rational use of natural resources activity

Aim	Task	Responsibility
To increase the amount of recommendations and suggestions from personnel in relation to warning and minimization of influence on environment	1. To choose responsible people and create constantly acting working group for accepting propositions from personnel 2. To create special groups for recommendations and suggestions consideration in subdivisions of enterprise 3. To work out the program of personnel motivation in relation to environment protection activity and rational use of natural resources 4. To organize a competition between subdivisions of enterprise as to the quantity of the given recommendations and suggestions	Deputy of director, environment protection manager Chiefs of subdivisions, environment protection manager Environment protection manager Environment protection manager, ecological service, chiefs of subdivisions

From the point of view of organization personnel involvement in the ecological aspects of organization activity the following points deserve special attention:

- during the selection of employees it is important to define their ecological qualification attributes;
- the employees of organization must have a necessary base of knowledge, which foresees studying the methods and skills, necessary for effective and competent implementation of their tasks, and also knowledge about those actions, which can be caused their incorrect activity (ISO 14004, 4.3.2.5);
- the requirements of enterprise which concern employees, can be fixed in a labour agreement that obligates employees to the responsible behavior concerning environment protection. Requirement of personnel participation in different retraining programs and in-plant training, in particular corresponding certificate obtaining can belong to such requirements;
- the criteria of ecological activity estimation (systematic) of all company workers can be either results achieved by employees, or degree of personnel involvement in nature protection activity;
- leading role in the training of the employees and their awareness on the environment problems and in their motivation to get involved in these problems, and also in elucidation to them ecological values of organization, plays the top management of organization;
- motivation of the permanent improvement of the ecologically oriented behavior of employees can grow, if the former get the proper achievement of special purpose and plan ecological indexes and if they are encouraged to make suggestions that can assist the increase of ecological efficiency (ISO 14004, 4.3.2.4).

A concept "ecologization of people" as permanent reproduction of the ecologically oriented knowledge, skills and persuasions is considered also.

Questions for self-check:

1. What is the essence of conception of ecologically steady society development?

2. What is the essence of state ecological policy?
3. Name the main subjects of state ecological policy in Ukraine.
4. Speak about the contents of Kyoto protocol.
5. Speak about the ecological aspects of Worldwide Trade Organization activity.
6. What charges belong to ecological and what ones - to the external charges of an enterprise?
7. How is an ecological management interpreted according to the standard of ISO 14000?
8. What principles of ecological management do you know? Name them.
9. What do the social and psychological aspects of eco-management consist in?
10. Enumerate the components of material and non-material stimulation of ecologically relevant organization personnel motivation systems.
11. Speak about the essence of ecological needs.
12. What classifications of eco-management methods do you know? Speak about one of them in detail.
13. What is the essence of nature management regulation methods differentiation into internal and external?
14. What does the essence of administrative and legal and organizational methods of environmental management consist in?
15. Speak about the essence of social and psychological methods of environmental management.
16. What do you understand under a notion “strategic ecological management of enterprise”?
17. Speak about the essence of international standards of the systems ISO 14000 and EMAS.
18. What are the reasons of standards ISO 14000 introduction by enterprises?
19. Name and analyze the stages of introduction and functioning of the environmental management system.
20. What does the characteristic feature of ecologically-oriented organization personnel management consist in?

CHAPTER 21. VALUATION OF CORPORATE ASSETS

Objective: *the formation of specialized knowledge and acquisition of practical skills concerning the valuation of assets for future usage of these results in various areas of property transactions in the management of the enterprise.*

Subject: *value of the appraisal object, determined by the valuation aim (its functions), intended use of its results and evaluation organization as a professional activity.*

Content modules. *Asset valuation as a professional activity. Objects of evaluation and their classification. Business property operations and ways of evaluation results usage. The concept of market value and approaches to its definition. Nonmarket asset evaluation bases and cost categories. Methods the expenditure approach in valuation. Types of deterioration and methods of its determination. The comparative approach in evaluation and the principles of analogue sale selection. The concept of income discounting and investment capitalization. Potential, actual, net operating income and cash flow. Methods of determining the discount and capitalization rates. Method of related investments (investment group technology).*

21.1. Organization of valuation

Free competitive market has introduced objects of different economic nature. Before the professional evaluation introduction only consumer and investment goods had the wide turnover.

Objects of consumption are the products of market demand that have passed the complete production cycle and are ready for consumption.

Investments are the objects intended for continuous use to produce benefits in the future.

Currently, the owner focuses not only on consumer and investment products, but on such specific items as property and moral rights, property interests, intangible assets, debts, loans, information, management and others. The possibility of operations with these objects has also expanded. Besides the simple buying and selling the owner is interested in state (municipal) property privatization, lease, mortgage, a package formation and securities circulation, insurance, industry division and mergers, restructuring, including the property in the authorized capital of companies and identifying the shares of owners, investments in non-traditional cash forms, assets exchange, the effectiveness of the new market mechanisms and others.

Thus, prerequisites for evaluation in general cases are:

- appearance of different owners, who have full or partial ownership;
- formation of different objects market;
- expansion of property and property rights operations;
- the appearance of specialized evaluation knowledge;
- the appearance of evaluation regulations.

It is this situation that requires special knowledge and the professionally trained specialists able to provide the support of market operations between owners, state, financial institutions and other market players concerning the ownership, use and disposal of the property. They should be able to perform these duties independently and objectively, drawing on relevant knowledge and methodology. All this was the precondition for the consulting services providing professional property evaluation and independent expert appraisers introduction into the domestic market.

Practice and the scientific understanding of the active and objective market economic laws that have been borrowed from the countries with developed market economies and along with the Ukrainian and advanced post-Soviet countries market experience became the theoretical basis of the national professional evaluation. Many provisions of international practice and theory of evaluation

form the basis of national legislation and evaluation regulations. Many evaluation aspects have been developed due to our experience, which allowed specific national characteristics consideration. However, the evaluation as a professional activity, continues to develop dynamically and acquires new knowledge.

The purpose of a professional appraiser activities is to give the objective and independent judgments about the costs and benefits that may be appear in the result of the agreement between two subjects of the market(usually). This reasoning is based on impartial conviction of both parties that the reflection of their interests will find place in the agreement between them. As a result, one of the principles of professional ethics of the asset valuation is compelling, accessible, understandable, most objective account of all the arguments and facts relating to the object of evaluation, the terms of the agreement, information about the object, reservations to the transaction parties, restrictive conditions of the results usage.

In general, appraisers are the professionals working in the field of applied economics, dealing with property evaluation procedures and records. Appraisers must meet strict requirements concerning the education, special training, competence and the professional skills. They also should strictly follow high moral principles and professional standards.

On the other hand, the result of independent evaluation carried out by professional is aimed at fostering a management decision of the client. The fact of administrative decisions making on the asset evaluation base stimulates the appraiser to be responsible in his judgments. However, the customer must also be ready to percept evaluation correctly and know the evaluation techniques applied by the appraiser, methodology and methods of the conducted evaluation procedures, outlined studies and conclusions.

One of the basic concepts, on which the evaluation activity is based, is the ownership relations.

Ownership relations are social relations of possession, use and disposal of property regulated by law.

Property is the object of ownership, which is characterized by utility. Property is always connected with real ownership. Irrespectively of rights on the property it cannot have the legal content, constitute the interest and circulate in civil relations.

In general case *the evaluation* is a certain kind of activity, during which an evaluation subject (evaluator) determines the value of the evaluation in monetary equivalent according to the currently prevailing socio-economic conditions, assuming that the agreement between the subjects of civil law will be determined by the determined value.

According to the law “On the evaluation of assets, property rights and professional valuation activities in Ukraine” the appraisal of property and property rights (the appraisal) is the process of determining their value on the valuation date basing on the procedure prescribed by regulations.

Professional evaluation activity is defined as activity of appraisers and evaluation activity subjects established in accordance with the provisions of the law, which consists in the organizational, methodological and practical provision of property evaluation, review and preparation of conclusions on the value of property.

Normative and methodical regulation of property valuation is reflected in the relevant regulations of property valuation - the laws, regulations (national standards), approved by the Cabinet of Ministers of Ukraine, methods and other legal acts which are designed to meet the requirements of national standards and are approved by the Cabinet of Ministers of Ukraine or the State Property Fund of Ukraine.

The development of property evaluation regulations is made on the principles of International Valuation Standards. The State Property Fund of Ukraine draws to their development public authorities, SROs appraisers, most reputable appraisers, scientific and other institutions. Currently, the main normative document that regulates the evaluation is the Law of Ukraine "On the evaluation of assets, property and professional activity in Ukraine".

The evaluation implementation is determined by type of relations that connect the interests of the owner concerning the property which he owns. Regulations are provided for both the cases requiring a mandatory evaluation and cases of appropriate independent assets evaluation. It's common to distinguish the independent and standardized evaluation.

Independent assessment is a certain type of the property value determination by the subject of evaluation activities (the transactor) under contract with the customer.

Standardized assessment is an evaluation carried out independently by state privatization bodies (bodies authorized to manage state property) using standard methodology and standard source data.

The practice of property transactions made it possible to establish such areas of assessment application (evaluation functions):

- privatization and other legal alienation of state (municipal) property and its return on the court judgments basis;
- sale, lease and renting of property;
- formation of enterprises (business entities), their merging and division;
- reorganization, bankruptcy, liquidation of enterprises;
- determination of the shares in the joint property;
- determining the value of contributions of the founders and partners into the business entity;
- transfer of property as mortgage;
- property insurance;
- revaluation of fixed assets for accounting purposes;
- property taxes and the definition of public duty;
- determination of compensation for property loss and damage;
- realization of ownerless property, other cases of alienation by the court decision or according to the need of public interests protection;
- transactions with the obligations, securities and their packages;
- investments in business and in operations of physical and financial interests;
- formation of forward contracts.

Hereby the privatization, carried out with public policy initiatives and in a comparatively wide scale, has formed the primary property market on which in exchange for some expenses the property was alienated from state ownership, and the secondary market, where the privatized assets circulated among non-state owners. A mandatory evaluation is applied to state property and property of communal ownership.

Thus, the number of users (consumers) of independent evaluation interested in its results includes:

- *State and its local authorities* (local authorities, local regional offices of the State Property Fund of Ukraine, property management of regional and local council deputies, state financial institutions, tax offices, law enforcement and judicial authorities, offices of statistics, state insurance, land management, agency of state corporate rights management, which are responsible for the acts of reorganization, restructuring, bankruptcy, etc..)

- *NGOs and business entities* (commercial banks, insurance companies, research and design organizations, planning agencies and economic offices of private enterprises, religious and other community organizations, representatives of business - owners, shareholders, managers, investors, creditors).

The evaluation subjects are:

1. Entities registered in accordance with government regulation. These include:
 - a) natural persons - entrepreneurs;
 - b) legal entities - entities, regardless of their legal form and ownership, among which at least one appraiser works, that have received the certificate of evaluation activities subject.
2. State authorities and local authorities, that have been empowered to carry out evaluation activities in performing the functions of administration and management of state property and (or) property of communal ownership, and within which the appraisers work.

The general formal legal requirements for the appraiser and the subject of evaluation activities are as follows: higher education, basic training courses, 1 year probation, qualification examination, receipt of the certificate and its state registration, obtaining a certificate of evaluation activities subject (as a natural person - entrepreneur or legal entity) and its state registration, timely re-skilling training.

21.2. Objects of valuation

Evaluation is not an end in itself. It leads to a certain number of legal actions of the appraised property owner. So when it comes to evaluation, an appraiser uses his conception of classification of the objects of assessment, which is somewhat different from conception of the appraised property owners. Owners (evaluation customers) are always more inclined to consider the business assets to be the object of the evaluation. The differences between these two conceptions are as follows.

Appraisal of assets requires a clear and unambiguous definition and structuring of assets with different characteristics.

Asset is a resource that is owned or managed by the organization due to some events in past. It is considered to produce some flow of economic benefits to the organization in future. By itself, the ownership of the asset is intangible. At the same time an asset that is owned, may be both tangible and intangible.

This definition was proposed by International Valuation Standards (in the seventh edition of IVS-2005) and is the most versatile and successful from the point of view of its functional purpose, which is also formally coordinated with the definition of assets established in International Financial Reporting Standards.

In terms of economic reflection of enterprises operating the concepts of assets is distinguished. They include:

- current Assets;
- non-circulating (out of the circulation, non-current or fixed term) and current assets;
- investment assets;
- transactive and non-transactive assets;
- specialized assets;
- spare assets.

Besides the enterprise assets, the assets typically include *the state (public) sector assets*, which can be considered as transactive, non-transactive and spare, and also those that include heritage assets and assets that are stored, the recreational area assets. This group is considered to

comprise the usual items of property owned by the state, and objects of cultural, historical or ecological significance or those provided for the population recreational purposes.

To elucidate the essence of a business entity assets structuration one must first apply to the list of the objects of civil rights determined by the domestic law. According to the fundamentals of Civil Legislation of Ukraine (Ukraine Civil Code) the objects of civil rights comprise things, including money and securities, other properties, property rights, operations results, services, results of intellectual and creative activities, information, and other tangible and intangible benefits. Thus the objects of civil rights can be freely alienated (e.g. according to purchase contracts), or move from one person to another in order of succession or inheritance or otherwise, unless they are removed (by legislation) from civilian circulation, or not restricted in circulation, or are inalienable from the natural or legal person.

The participants of civil relations are natural persons and legal entities.

Natural person is a person as a member of civil relations. Individual with full civil capacity has the right of entrepreneurial activities accomplishment, i.e. individual can act as a private businessman in the case of legally required legal procedures fulfillment.

Legal entity is an organization established and registered in the legal form, endowed with civil legal capacity, that by engaging in social and productive relations with other subjects of civil law comes into effect of regulated the legal field and, consequently, may act as a plaintiff or defendant in the court.

The participants of civil relations are also the state of Ukraine, Autonomous Republic of Crimea, local communities, foreign governments and other entities of public law.

If these relations concern the persons' actions of the acquisition, alteration or suspension of civil rights related to the object of such rights, then it comes to the ownership rights.

Property is a separate thing, the totality of things and property rights and obligations. These objects' ownership is determined by the ownership, use and disposal rights. The property is a legal term covering all interests, rights and benefits associated with its ownership. Civil Code also stipulates that the company is the sole property complex used to conduct business activities. The enterprise as a single property complex includes all kinds of property intended for its activities, including land, houses, buildings, structures, machinery and equipment, inventory, raw materials and products, claims, debts, and the right for trademark or other marking and other rights unless otherwise specified by law or contract. Enterprise in whole or in part may also be subject to sale, mortgage, lease and other agreements.

International Valuation Standards Committee recognizes the following four types of property: real estate, personal property, business and financial interests.

Real property is a property that cannot be displaced in space without being damaged in terms of its further use for the purposes determined by its original functionality.

While the national civil law does not distinguish the concepts of estate property, movable and immovable property, international legal practice distinguishes the concepts of "real estate" and "estate property".

Real estate is an interest in estate property. Real estate is a legal concept that covers all the rights, interests and benefits associated with ownership of estate property, unlike estate property that is the physical concept defining the relevant objects without their relative ownership. However, the indicated fineness of differences in definitions is not essential when using these concepts in general property management practice and in assets management in particular.

In the national standard number 1 and number 2 in real estate (estate property) denotes the plot without improvements (vacant, without improvements of the land and improvements of the

buildings, structures, communications, other buildings and parts thereof), land with improvements that are inextricably linked to it, and the land improvements.

The combination of all rights associated with estate property ownership in international law practice is often called a bunch of rights, implying that in many situations, individual rights can be separated from the bunch and transferred (sold), leased, alienated by the state and etc. In this case we talk about more fragmented distribution of the concepts of possession, use and disposal, for example the restriction of actions, the presence of restrictive conditions, easements, rights of the object of property passage and other fragmentary and partial interests in real estate.

Movable property is a property that can be moved in space without being damaged in terms of its possible future use according to its functional purpose. In general cases, such property includes material objects, are not included into the estate property - tangible objects, moving things and intangible objects, such as debt, patent or idea. But the difference between interests in rights of debt collection and rights to derive the benefit from some idea and the actual debt or ideas should be understood.

Business is an organization that aims to profit by providing consumers with products or services. Business in general cannot be treated as separate asset, it is an organization, the set of tangible and intangible assets that has some value due to income opportunities, it has the right to circulate on the market, like any other asset, for instance the thing, right or share. In carrying out civil acts with business it's necessary to determine whether it is corporative, unincorporated or based on trust agreement, which grant the right of control to individual or corporate trustees, organizations with complex structure combining parent (affiliated) and associated corporations, partnership interests, the interests of those performing trust functions.

Financial interests in property are defined both by the legal division of interests in business or a specific part of the property ownership and by the transferring of certain rights of their disposal.

Since the basic economic criterion of any particular property and non-property asset or property complex significance is its cost, when classifying the enterprise assets one should separately focus on 3 approaches to their structural separation, which have the most practical significance for enhancement the efficiency of asset management in various conditions and situations:

- 1) legal;
- 2) educational and procedural;
- 3) material and substantial.

These approaches are formed by domestic and foreign evaluation practice as the result of property asset valuation for various purposes, i.e. for different assets transactions. And, although these approaches partially cover a wider range of objects including not just the assets of enterprises, they provide the most complete picture of the object of management considered in this section and, consequently, of the object of evaluation.

The most common and practically used are three main criteria for classifying the evaluation objects, on which the classifications are based according to the characteristic features chosen.

Legal aspect. This classification is based on the assignment of the object to a particular group in accordance to national legislation on valuation. According to this aspect property and property rights are distinguished. Property is divided into:

1. Objects of material form.
 - 1.1. Land.
 - 1.2. Buildings.
 - 1.3. Facilities.

- 1.4. Machines.
- 1.5. Equipment.
- 1.6. Vehicles.
- 1.7. Other.
2. Shares, securities.
3. Intangible assets.
4. Integral property complexes.

Property rights include:

1. The rights that are the part of ownership (ownership, disposal rights, right of user).
2. Other specific rights (right to operate, use of natural resources, claims etc.).

Educational and procedural aspect. According to this aspect the classification was based on the similarities in methodic approaches and evaluation procedures used in the process of independent appraising of each group. This classification is also used during training the independent appraisers. It distinguishes:

1. Objects in material form.
 - 1.1. Immovable objects (real estate, estate property, including land).
 - 1.2. Machinery and equipment.
 - 1.3. Road vehicles.
 - 1.4. Aircraft.
 - 1.5. Shipping facilities.
 - 1.6. Moving objects of cultural value.
 - 1.7. Moving objects that don't fall into 1.2.-1.6.
2. Integrated property systems, shares, securities, property rights and intangible assets, including intellectual property rights.
 - 2.1. Integrated property systems, shares, securities, property rights and intangible assets.
 - 2.2. Intellectual property rights.

Material and meaningful aspect. According to this aspect the classification is based on object referring to a certain group according to the distribution of certain assets and the content features of the appraised object that is present in market circulation and in evaluation practice. According to this classification the objects of evaluation are divided into:

1. Elements of assets according to the balance.
 - 1.1. Non-circulating assets.
 - 1.1.1. Real estate (houses, buildings, structures, including facilities construction) - passive part of fixed assets.
 - 1.1.2. Movable property (machinery, equipment, vehicles and other assets, including expensive machinery, tools, furniture, equipment, office equipment) - the active part of basic assets.
 - 1.1.3. Other non-circulating assets (intangible assets - software, know-how, permits, licenses, goodwill etc.; long-term financial investments - securities etc.; long-term receivables and other non-circulating assets - labor and livestock, orchards, vineyards, perennial plants, natural raw materials, etc.).
 - 1.2. Circulating assets.
 - 1.2.1. Inventory.
 - 1.2.2. Animals in growing and fattening.
 - 1.2.3. Unfinished products (work in progress).
 - 1.2.4. Finished products (in storage).

- 1.2.5. Wear, low value items (IBE).
- 1.2.6. Goods (in circulation).
- 1.2.7. Current financial investments.
- 1.2.8. Current receivables.
- 1.2.9. Other circulating assets.
- 2. Integral property complexes (IPC).
 - 2.1. The aggregate value of IPC, as the total value of its constituent assets.
 - 2.2. The net value of IPC as the aggregate value of IPC, after deduction of liabilities (long-term and current).
- 3. Property rights.
 - 3.1. The rights that are the part of ownership (ownership, disposal rights, right of user).
 - 3.2. Other specific rights (right to operate, use of natural resources, claims, etc.).
- 4. The parts and shares of the property guaranteed by physical (ownership of material objects parts - land and building on it, harvesting and processing of agricultural products) and financial (own and borrowed capital) interests in the property.
- 5. Business as an organization, whose use value is determined by the ability to provide income.

The practice of market relation has identified the turnover of these objects in aggregate, as well as separate objects, their groups and different combinations circulation, and formed the basic principles, methodology, methods, algorithm and procedure of determining their value by the criteria of their significance in the different market operations. Therefore, the classifications provided are primarily connected with the need of objects evaluation and not with operation that follows it.

21.3. Basic principles of the valuation theory

The evaluation theory has defined the main principles of evaluation. They are fixed in the international and national standards. (these principles comprise a set of past experience and deductions rules, guidelines, provision (opinions) that must be observed in order for the operation being carried to achieve the desired or maximum close desired result). The property evaluation principles include the system provisions developed in the result of long evaluation practice, both domestic and foreign. The most significant in this regard are the following principles of evaluation:

1. *The principle of utility.* It is based on the fact that the property has some benefits for a potential owner or user. Value is the ability of the property to meet the specific needs of its owner both in terms of ownership relations (ownership, disposal and the right of user), and in terms of socio-economic relations (production, exchange, consumption).
2. *The principle of substitution.* It means that the customer won't pay for the property, if its price is higher than minimal price of the property of equal utility sold in the market.
3. *The principle of expectation (prediction).* It means that the value of object is determined by potential economic benefits that its full or partial ownership is expected to produce in future.
4. *The principle of contribution (marginal productivity).* It presupposes taking into account the factors of production that influence the price of the object, such as labor, management, capital and land. This influence is proportional to their contribution to total revenue. Influence of certain factors is evaluated as a share of the total value of the object or as part of the value for which the total value of the object will be reduced in the case of its absence. Contribution is a total growth value of the property as a result of introduction of a certain factor (asset), but not its actual value as an individual element of an object (the actual value of this factor). For example, the inclusion of any additional asset in the enterprise is appropriate, if the gains

derived by the enterprise as a whole is higher than the cost of its acquisition. It is good to use the phase (period) of maximum marginal return in the evaluation, in which the difference between the gains derived and the cost of a factor is maximal. This is explained by the "law of decreasing return", which states, that starting from a certain point the consistent joining of variable resource units (e.g. labor) to the fixed resource (land) gives diminishing additional product for each subsequent unit of variable resource.

5. *The principle of supply and demand.* It displays the ratio between supply and demand for analogous property. According to this principle during the evaluation it's necessary to take into account market fluctuations in prices for similar property and other factors that may cause changes in the ratio of supply and demand for such property. Adhering to this principle one should clearly see the current situation on the market of similar property in order to take into account the trends at the moment of evaluation:
 - a constant demand, supply decreases or increases;
 - a constant supply, demand decreases or increases.
6. *Principle of correspondence.* It says that the objects that don't meet the market facilities, productivity, technology, profitability or other specifications have the less value than those meeting all requirements.
7. *The principle of balance (proportionality).* It is based on the assertion that the object has the greatest value when the ratio between the inputs and the optimal size of their totality is balanced. Lack or excess availability of one of the factors (their deviations from the optimum ratio) reduces the cost of their totality. Moreover, the optimal totality of factors must meet optimality in its volume. For example, the optimal size of industrial enterprise is characterized by only some of its capacity, which is set basing on a minimum total unit cost of production and sales of its products. At the same time the attention is payed to the availability and accessibility of raw materials, internal costs, shipping and selling costs of manufactured products and others. Roughly speaking, for the current market conditions the value of the enterprise should be far higher that directly proportional optimal size (capacity).
8. *The principle of progression and regression.* It is based on the following statements:
9. The market price of the object that has some improvements compared with a similar property is less than the cost of this improvements;
10. The market price of the object compared to the similar objects that have extra improvements is higher than the cost of these improvements.
11. *The principle of competition.* Areas of industrial activity, where the especially lucrative businesses exist are characterized by the sharp aggravation of the competitive environment. Profitable business always attracts a large number of competitors seeking to enter it. Increase of competition leads to increased supply and thus the profitability is reduced. Therefore, the general level of income reduction leads to the reduction of the price of the object producing this income.
12. *The principle of economic division.* Actions for distribution or association of property and property rights are appropriate only if it will increase their total worth, and hence the cost. Therefore, determining the cost of the components one should consider their utility usefulness in integrated or differentiated conditions.
13. *The principle of the best and the most effective use.* In evaluating the object one should base on the assumption that after the deal it will be used most effectively by its owner, which will provide the highest profitability. However, one should consider only those alternatives that are legally permitted, technically possible and economically expedient. The best alternative is the

one providing the highest profitability to the object and therefore the maximal utility and maximal cost.

14. *The principle of reasonable caution.* In the case when different methods of evaluation give different results the preference is given to the value below average in this range, more pessimistic evaluation result is taken.

All the information about evaluation object is to comprise following data:

- quantitative and qualitative characteristics (size, capacity, physical condition);
- financial characteristics and value characteristics (accounting, production and economic results, information on profitability);
- documents confirming property rights, status, submission of the owner;
- description of location, environment, external conditions of use;
- conditions of sale (duration of exposure in the market, form of payment preferred, special conditions of the agreement) of the evaluation object as well as of previously sold analogues;
- legal conditions under which the agreement for the appraised object will be signed and agreements concluded for its analogues;
- statistical database on the concluded agreements on the market of this kind of property;
- legal, scientific and methodological materials, which are the result of socio-economic relationships experience and evaluation practices.

A key criterion for assessing any property is its usefulness. The purpose of the evaluation procedures is to identify and quantify level of usefulness of the appraised object. Usefulness is always considered in specific conditions, so it cannot be absolute. Thus the usefulness of the property may differ, when considered separately and as part of the whole group. For the buyer who has his personal interests in the property, its individual usefulness is higher than for the other buyers. The usefulness of the object may change with time, it can be affected by the dynamics of state or level of external factors and conditions. Value is the measure of usefulness.

Value is a cash equivalent the buyer is willing to give in exchange for an item he's interested in. All that is useful, has some value. IVS treats value as an economic concept concerning the monetary relationship between assets, available for purchase, and those who buy and sell it. The value is a calculated measure of object's worth. In evaluation the concept of value is inextricably linked with its category and type that is important for the calculations - the market, liquidation, investment and others.

According to the adjustability the standard and assessed values are distinguished.

Standard value is a value that is based on methods and standards approved by the appropriate levels and designed to solve specific problems.

An example is determination of initial and residual book value, the value evaluation for tax imposing, for example the standard official evaluation of land. In these cases the integrated scale norms are used in the whole country or region (basic unit cost values) and the tables of legal correction factors reflecting the differences between the objects according to price forming factors. Standards may be revised, corrected and re-ratified later (they are usually amplified).

Assessed value is the value predetermined by freely chosen methods according to the required evaluation base, which is determined basing on evaluation objective and use of its results, according to the algorithm and on the basis of basic data.

One should distinguish the notions of *value in use* and *value in exchange*.

Value in use is the value of property from the point of view of specific user that already uses or intends to use the property in some way to fulfill his needs. The value of property in use for its owner is determined by his individual tastes, opinions, passions, likes or dislikes. Thus different

individuals may differently evaluate the usefulness of the same property. There are many individual factors, and under their influence evaluation of value in use of the same property can differ from user to user significantly. Thus, in this case we mean the value specific property for a particular user in a specific way use, and as a consequence - it is not associated with the market. Value in use is close to the notion of consumer value.

Value in exchange is a value that is reflected in the exchange as a result of alienation of the property for some amount of the same or other property or for a cash equivalent. This value is called **barter value**. Value in exchange is a generalized characteristic of the property utility as the subject of exchange from the position of potential buyers and sellers.

The high value in use of certain property for a particular user does not presuppose that the value of this property in the exchange will be that high - its size will depend on how high (or low) is the appraised the usefulness of this property by the market (but not by a concrete subject). In other words - only the market creates value in exchange.

Price is a measure that indicates the amount of money needed, proposed or paid for any item. It is a historical fact and it always corresponds to a certain point in time, place and conditions.

Costs are defined as the price paid for an item or as the amount of money needed to create the object. Regarding the specific evaluation object all the costs necessary for its production (reproduction), are calculated for each element of the process and in total represent its prime cost. Thus, **the prime cost** is a set of costs calculated in cash and necessary for the creation (purchase) of an object. Receipts from the sale of objects at some certain price include the cost of their creation (acquisition) and revenue. It is important to understand that for the seller this price includes costs and his profit and for the buyer the same price includes the costs only.

The proposition that all agreements concerning property are caused by the market, market environment, market relations is very important for the object evaluation.

Market is a system in which the exchange of property through the mechanism of prices is carried out. In the market the property transition from hand to hand is made voluntarily (by agreement), without any impact on the seller and buyer. Each party is typically motivated, knowledgeable, is governed by prevailing in a free competitive market relations of supply and demand and takes into account other price forming factors, acts to the extent of his capabilities, knowledge, awareness of the comparative value of an object that circulates in the market and takes into account his individual needs and desires. It is also assumed that the market may be local, national or international.

It is important for the understanding of the concept of evaluation to know about the notion of its base. **Evaluation base** is a set of methodological approaches, methods and evaluation procedures that correspond to some type of the property value. To determine the evaluation base the appraiser shall take into account the objective and the purpose of its result. Base choice also depends on the property characteristic features and regulatory requirements for its evaluation. Evaluation is conducted on the base that corresponds to market value or non-market value. Accordingly, the evaluation bases are divided into market and non-market.

21.4. Market value and non-market value categories

Market value is the value for which the alienation of the evaluation object is possible on the market of analogous property on the evaluation date according to the agreement signed between the buyer and the seller, after proper marketing, provided that each party acted with case knowledge, prudently and without coercion.

Analogous property is the property that is similar to the evaluation object and has the same investment appeal due to its characteristics and (or) properties.

Evaluation date is the date (day, month and year) on which the property evaluation is conducted. Typically, this is the last day of the month in which the evaluation is carried out.

Adequate marketing are the marketing actions (efforts, procedures, measures) that provide the most effective item selling basing on the modern conditions, requirements and level of knowledge. Duration of marketing process should be sufficient enough for the property that is sold to attract the attention of an adequate number of buyers. Period of marketing, of course, comes before the date of evaluation.

According to the IVS the **market value** is an estimated value, equal to the cash sum, needed for the transfer of property from hand to hand on the evaluation date in the result of a voluntary commercial agreement between the buyer and the seller after proper marketing. Here it is expected the each party has acted competently, prudently and without compulsion.

The notion of "market value" is inextricably linked with three concepts: "realization period," "the use of an object ", " conditions of fair agreement".

1. **Realization period** - the period of time from the moment the proposal was placed by the time of the sale. One must distinguish the expected, flat, accelerated and reasonably long realization periods:

- the expected implementation period is determined by the appraiser . Appraiser believes that the implementation of the object defined by its value required just such a time exposure in the market;
- implementation of a fixed period determined by the customer, the customer evaluation. The client requires that the facility was sold for such a period, meaning that the value of an object different from the value provided reasonably long period of exposure of the market;
- accelerated implementation period determined by state regulations, and departmental regulations - the requirements of laws, regulations , procedures and so on. They were supposed to limit the period of implementation of certain period (usually one month) after a certain complexity of procedural steps that accompany the agreement that evaluation is one of them. Short term implementation compared to reasonably long cannot be displayed on the project cost and requires when assessing choice -market basis of valuation;
- reasonably long period of implementation is determined by the appraiser analogues sales or otherwise. This period of exposure of the market, provided that the proposed facility at fair market value on the open competitive market and is acceptable in terms of long-seller.

2. Using an object - a measure tool, a way to obtain benefits (income). The actual design and use is divided into:

- use at the time of evaluation (as property used by the time of evaluation);
- use at maximum load actually available at the time of manufacturing capacity (when making complex lossless purely organizational measures);
- use of the facility at the level provided for project development company, is considering launching pending and projected objects (with activities that require additional capital investments) .

The best and most efficient use. It is an alternative option to use an existing facility that provides it at the valuation date the highest current value. It is assumed that such use is legally permitted, the technical, organizational and financial feasibility, cost-efficient.

3. **Terms fair deal.** They include the following:

- Parties to the transaction are typically motivated (voluntary desire to buy one and sell the other, there is no any pressure on both sides of the transaction, the parties strive for the greatest benefit for themselves);
- The parties sufficiently informed about the object and about the market of such property;
- Payment is made in cash, which is in circulation in the location of the object.

In the valuation methodologies considered several types of cost, the choice of which in each case depends on the objective and purpose of assessment and the type of property being evaluated. Based on the assessment task, the evaluator chooses and agrees with the customer in due course evaluation type value and using certain methodological apparatus and following evaluation procedures, determines its value. "If the appraiser to determine the value taken without explanatory terminology and the report indicates that the cost of the project is nameless so much , or confused in determining the types of cost , breaking an agreement with him without mercy to avoid further confusion, even if he promises to do the work almost free.

Apart from the earlier concepts of normative and the estimated cost, the cost to use and exchange, consumption and exchange value, market value, it is necessary to clearly define the concepts of types (categories) of value belonging to non-market evaluation database. National Standards to the value of non-market types include the following:

- Replacement cost;
- The cost of reproduction;
- Depreciated replacement cost (play);
- The cost of liquidation (turbine cost);
- The investment cost;
- Special tax;
- Residual value;
- The market value for the purposes of insurance (insurance value);
- Net realizable value.

International standards to base estimates of non-market additionally include the following types:

- The value of a going concern;
- The value for tax purposes or the tax (taxable) value;
- The cost of the mortgage.

In addition to the above, the assessment methodology often featured the concept of fair value.

Replacement cost - determined on the valuation date present value costs of creation (acquisition) in the current conditions of the new object to the object of this evaluation, it may be equivalent replacement.

The cost of reproduction - is determined at the measurement date present value of the costs of creation (acquisition) in the current conditions of the new facility, which is identical to the object of evaluation.

Residual value replacement (reproduction) - the cost of replacement (reproduction) of the assessment, net of all types of wear (for property - based on the market value of land in its existing use (rights associated with the land).

The cost of liquidation (turbine cost) - the cost of which is expected to get the object of evaluation that has exhausted the usefulness according to their original functions. This value of the property (excluding the cost of land) as a combination of materials suitable for use without further costs of dismantling, removal, dismantling and preparing them for sale - cutting , sorting, cleaning and so on.

Investment value - the value determined under specific conditions, requirements and purpose of investing in the facility assessment. It is formed by specific project investor. Investment value is determined when the need to transfer the property to the investor, he compensated the costs associated with the fulfillment of investment obligations.

Special price is the sum of the market value and allowances for it, which is formed in the presence of atypical motivations or special interest of the potential buyer (seller) in the facility assessment.

The residual value - the value that could be obtained under the condition of sale of the assessment in a period that is much shorter than the period of exposure of such property, for which it can be sold at a price equal to the market value, that is, if reasonably long period of implementation.

The actual cost for insurance purposes (insurance value) - the cost of reproduction (replacement cost) or market value of the property determined in accordance with the terms of the contract.

Net realizable value - market or non-market value types that are defined for the purposes of sale of assessment, except costs associated with the sale, including those related to the payment of value added tax.

The cost of going concern - a complete business value. This concept involves the evaluation of continuous functioning of the organization , based on which the distribution or diversity possible total cost of operating the company for its components according to their contribution to the overall cost, but alone , none of these components are not looking for market value. Therefore, the concept of going concern value may only apply to property that is a part of a business or organization.

The cost for tax purposes or the tax (taxable) value - the value that is calculated based on the definitions contained in the relevant laws and regulations relating to the field of taxation.

The cost of mortgage lending - a property value, the appraiser determined that conducting a careful assessment of the opportunity to realize assets in the future, taking into account long-term sustainable aspects of the property, the normal and local market conditions, the current use and its relevant alternatives use property.

The fair value is the amount for which an asset could be exchanged, or which may be redeemed obligations in commercial transactions between knowledgeable and willing parties. Fair value - a concept formulated by international and domestic financial reporting standards.

Methodology and methodological provisions determining the value of using an appraiser provide certain tools through which the evaluation procedure. The procedure includes a procedure, a sequence which allows the appraiser to obtain a result that will eventually be used in a certain order. Standard evaluation procedure is defined as actions (steps), the implementation of which in sequence makes it possible to assess. Its tools are the methodological approaches and methods that define its own algorithm.

Methodological approaches. It's common methods of determining the value of the property based on the basic principles of evaluation.

Methods of assessment - is a way of determining the value of the assessment, the sequence of evaluation procedures which make it possible to implement a specific methodological approach.

Theory and practice of formulated three traditional approaches to evaluation: expenditure, comparative, income. Methodological approaches to determine the attitude of the appraiser selection evaluation areas, fundamentally different in content, but those that result in the most conducive to the objective.

The expenditure approach is based on consideration of the principles of utility and replacement. The object is measured by how much should be invested or invests in a copy or counterpart estimated object at the measurement date in the modern scale of prices. The object is exactly the same as at the valuation date will require the costs of reproduction in modern terms, or to reproduce it fully functional analog. Rational seller does not want to lose a penny of what at one time invested in this place and be sure that the reproduction or copy of similarity needs of such costs. A rational buyer will pay for the object more than the minimum amount of expenditure on the creation of the same object or objects similar to the estimated as a design functionality, deployment and the ability to use.

The comparative approach is based on consideration of the principles of substitution and supply and demand. The object is measured by how much for the same or similar items have been paid in the market based on the results already entered transactions. A rational seller will sell the facility cheaper than identical or similar assets already paid by the buyer on the open competitive market and as a result made known to him deals. A rational buyer will pay more for the object from the value prevailing in the market known him property with similar characteristics.

The income approach is based on accounting principles most efficient use and expectations. Property is assessed according to how much revenue it can bring for the intended period of possession, use and disposal. Rational seller and the buyer probably can make a deal sale at a price that is reduced to the present value on the valuation date of all future expected benefits from future buyer possession, use and disposal, provided that the property will be used best, most efficient way.

Financial resources can be invested in the property, he is able to produce income or as a result of future use by the owner for its functional purpose as a result of maintenance of the business, or as a result of the deposit owner of possession of the property leased. Theoretically receive income from the property owner direct operation of the facility or income from renting it out is equivalent. Both provide him other options to obtain net income or a net operating income from self-help facility for its functional purpose, or as a pure rent, pursuant to the lease he (the landlord) pays the tenant.

National standards **expenditure approach** is interpreted as determining the present value cost of reproduction or replacement of the assessment and then adjusting for depreciation (depreciation). Comparative analysis approach involves offering and sale prices of similar assets with a corresponding adjustment of the differences between objects of comparison and evaluation sites. Income approach is defined as the present value of expected revenue from the most effective use of the assessment, including possible return on its resale.

21.5. Methods of valuation: an expenditure approach

As part of the cost approach may be determined following types of cost: the cost of reproduction and replacement cost.

The full cost of reproduction - is the estimated cost of reproduction of the object (the copy) in its original form in the present conditions.

Full replacement cost - a cost of reproduction of the object, which is a functional analogue of the estimated (as in the new original form as of the valuation date).

Residual value replacement (reproduction) - a full replacement cost (play) with the exception of all kinds of wear.

Depreciation - a loss of value of the property as a result of owning and operating losses expressed in value terms in consumer and economic characteristics of the object. To distinguish between the following types of depreciation: physical, moral, functional, economic and external.

Physical deterioration - is the loss of value and performance through natural causes.

Physical deterioration that can be eliminated is a loss of properties (their cost) that can be recovered through renovation.

Physical deterioration that can not be removed is a partial or complete loss of properties that can be recovered by replacing.

Moral and functional wear - a loss of value due to the reduced complexity of time playing up (moral deterioration of the first kind) compared to the estimated object or analog (moral deterioration of the second kind) as compared with the copy, as well as due to lack or excess of anything in estimating facility compared to today's market requirements to objects of this type.

Moral and functional deterioration, which can be eliminated - a loss or lack of qualities at the time of assessment of market demands from similar objects. It eliminates the addition, replacement or upgrading of missing items.

Moral and functional deterioration, which can not be removed - this is the ultimate loss of quality, at the time of assessment of market demands. Fixes can not be.

Outer wear - a loss of value due to a change in external conditions as the location, environment, transport accessibility, environmental situation, legal frameworks, economic conditions, etc.

Economic depreciation – a loss of value due to changing market conditions for goods produced by the business, which reduces the real profitability of this business.

Depreciation taken into account in three types:

- 1) in absolute value, UAH;
- 2) in a percentage ratio to the cost of unthread bare object or element %;
- 3) using the ratio of residual life ($K_{3,pr}$), measured in units of shares:

$$K_{3,pr} = 1 - \frac{\% \text{ depreciation}}{100} \quad (21.1)$$

National standards provide the following definitions wear.

Depreciation – a loss of property value compared to the cost of new property. Depreciation on the basis of his share of physical, functional and economic (external):

- **Physical** - wear caused by partial or complete loss of the initial technical and technological quality of the assessment;
- **Functional** - wear caused by partial or complete loss of the original functional (consumer) characteristics of the assessment;
- **Economic (external)** - wear and tear caused by the influence of socio-economic, environmental and other factors on the assessment.

In relation to property, including land improvements - buildings, structures, communications, other buildings and their components, the calculation of the value of deterioration is governed by regulations. National standards stipulate that the calculation of depreciation of land value improvements can be made by applying the method of partitioning method or period of life.

In assessing the cost approach is determined by the total cost of reproduction of the object (copy), full replacement value of the object (functional equivalent), net replacement cost (play).

The full cost of reproduction of the object (copy) can be determined by three methods: the cost of structural elements on the basis of quantitative analysis method re-indexation full (original) and the residual book value.

1. *For cost tools.* Determined by summation of all costs (including contractor profit) for each element of the object. The cost of laying unit (1 m³ concrete foundation, a masonry m³ 1 m² of floor, etc.) multiplied by the appropriate amount of building elements (foundations, walls and partitions, etc.), and determined the total amount.
2. *Based on quantitative analysis.* Summarizes all the costs of the object as a whole by types (elements) of costs (material costs, depreciation, wages, etc.). These costs and expenses should reflect the scale of prices and rates that exist at the time of evaluation. If their values used in the calculations do not correspond to a fully developed market on the valuation date, they should bring up to date assessment of the relevant coefficients.
3. *Method of re-indexation full (first) book value.* The initial carrying value indicated on the basis of accounting deliverables at the beginning of the year evaluation re-indexation by using feedback coefficients of the official denomination of national currency and the coefficients of the official 4-indexations value of assets held in the period 1991 to 1996, which was mentioned above. Having such re-indexation, you can go to the original historical book value as of the date of the assessment to include the balance. If this value reflects the real value of the object at which it was created in its time and, if included in the balance of this cost was not distorted, with the help of relevant market factors that characterize the growth of prices in construction, and its inflation rate You can bring up to date assessment.

When bringing obtained in this way, the estimated value of the object to be used to evaluate the index based on two sources:

- 1) based on Gosstroy (Addendum number 1 and number 2 of the USSR Gosstroy on 05/11/1983, appendix to the letter Gosstroy USSR number of 14-d 09/06/1990, appendix to the letter Gosstroy Ukraine № 10/8- 114 of 02.06.2006, the);
- 2) based on data from Goskomstat USSR and Ukraine (our quarterly newsletter "Prices in the building).

Because data Gosstroy USSR and Ukraine are institutional in nature, more objective and independent data are considered the Ministry of Statistics.

Quarterly newsletter "Prices in the construction are different because they are detailed indexes of actual costs for construction and assembly work in industries as compared to budgeted prices, imposed on 1991, and the actual prices for a wide range of building materials for the region. Translation Price estimated 1991 in 1984 prices by using the application described in this source of industry coefficients.

The full cost of replacement item (analogue) can be defined four ways: cost per unit of measurement for the cost of building a functional analogue, by "50 to 50, cost to enter the housing.

1. *For a single price index.* The cost of building a single index can be defined by analog issued at the time the reference collections of the aggregated value of specific indicators play typical construction projects. They have different model objects are specific (per 1 m³ of building volume, trading at 1 m², warehouse and other. Square, 1 m long linear object of 1 unit., Kit, etc.) value performance cost of their reproduction. Tucking on similar characteristics with the object functional equivalent, in calculating its value play (and for the assessment it will be the cost of replacement) should be used is mentioned in this book value of the specific target.

Multiplying the value of the specific selected the appropriate quantitative characteristic of the object of evaluation (number m³ of building volume, m² trading, warehousing and others. Square, etc.), we get the full cost of reproduction of a typical analog or full replacement value of the object evaluation. Funds received value at the time of assessment (to bring it up to date assessment) is carried out again using the appropriate market factors that characterize the price increases in construction and inflation over the period.

Residual value of the reproduction and replacement is determined by multiplying the total by a factor of the residual life of the assessment that considers all types of wear. This method is quite common in the evaluation of practice, and it is often called by UPVV.

2. *For the cost of building a functional analogue.* This method is similar to the former, but in contrast with the baseline for the Calculation of standard unit costs to enter the design capacity of a typical object, similar to estimate by its functional purpose. These norms are established primarily for industrial and manufacturing purposes. For instance, the costs of enforcement power per 1000 kW of installed capacity, brickyard per 1 million pieces of bricks a year, an object for entertainment events per 1 spectator places and more. Multiplication of selected parameter estimates for the actual power of the object and then got to bring value to assess the full cost of replacement is determined that, except wear gives the estimated residual value of the replacement item.
3. *Method "50x50"* is that today with the erection of buildings with modern, for the most expensive imported materials (cottages, mansions, private construction facilities) in dealings with the contractor, usually assumed equal costs on materials (design, components, etc.) and other expenses (payroll, operation of construction equipment used, etc.) in the structure of total costs for construction of the object. This method is taken to adopt a reputable contractor - construction companies as a guarantee of quality and responsibility of the full range of construction works and commissioning the object turnkey. This approach eliminates the additional cost of the customer relating to the claims of a design, necessary revisions, alterations, damage materials and others. In assessing the value of play (replacement) of the estimated object this approach, though somewhat rough, but quite reasonable and close to real results. It is very useful during preliminary and rapid evaluation of the object. Moreover, the cost of materials is always possible to quite accurately determine how the client and the appraiser, referring to price lists and online information to producers.
4. *With the introduction of housing costs.* This method is that when calculating the estimated value of the object using information about the cost of commissioning a m² of housing prices on the valuation date. This information may be obtained from national and regional statistical collections which will capture and publish an annual summary of annual data on investment for housing and housing annual number entered. Defined based on these data, specific rate (per 1 m² of housing entered) and multiplying this value by the estimated area of the object and the integral correction factor to bring a constructive difference in the performance of housing units and the assessment, you can get full replacement value. If such amendments are reasonable, accurate, sufficient and take into account the maximum difference, the value will display close to the objective results.

If you use some methods cost approach should consider the fact that at the construction time some base prices were determined. These are price regulations established in 1955, 1969, 1984 and 1991. If the facility was built in 1972, its book value, unless it was deliberately distorted accounting, reflecting the cost of construction in the base prices of 1969. Accordingly, if enforcement of this historical cost fixed at the time of the entry in the Balance (1972), to assess the

rate of conversion to use basic prices, i.e. prices that were fundamental in this period and that during this period was carried out construction. In this case, prices in 1969 and bringing them to assess the need to use statistical indices of price increases in construction for the period from 1969 to 1984, then from 1984 to 1991, from 1991 to the year, which is the latest official data on price increases in construction (indices) to give estimates. Price increases in construction for the period remaining before the date of assessment, not taken into account according to index, you can consider using the inflation index for the period of time, which is the last index value corresponding to the date of assessment. This indicator is published monthly in the press and on websites of official government economic missions.

21.6. Methods of valuation: a comparative approach

Within a comparative approach is determined by market value.

There are generally accepted methods comparative approach:

1. *Based on the comparison unit.* This method is based on determining the value of the object by comparing the estimated cost per concluded the sale of such property, per unit of comparison. The unit of comparison - this means taking into account differences in cost estimates for the object and objects - unique sales.

For vacant land units can be compared:

- physical units of comparison:

- cost per unit area;
- cost per unit of frontal length;
- price for the area in general.

For land improvements (buildings) is:

- price per 1m² total utility (residential, retail, warehouse) space;
- price per room;
- price for an apartment;
- price for 1 m³ of building volume;

- Unit of comparison that bring income:

- unit price, income (1m² area of premises subject to lease, 1 parking space, stadium, restaurants, school, bed in the treatment facility).

On the basis of physical units of comparison. For object-defined analog value per unit of comparison, and its mean value. Then, this value is multiplied by the number of units specific to the assessment and determined the estimated cost of the item.

Based on the comparison unit, which provides income. This method is similar to the former, only used in determining the value of other current figure, which puts additional requirements for the selection of objects-analogues.

2. *Evaluation as amended.* It is most common in the assessment method that is taken into account amendments that differences in cost estimates for the object and object-analogues. These differences are detected by different, but quite certain characteristics of objects, called elements of comparison. Elements of comparison - a complex of characteristics that reflect the basic pricing factors that directly affect the value of the object. It not only features the same objects, but also factors that affect the conditions under which the transaction occurs.

The basic elements of comparison include the following:

- functionality;
- physical characteristics of the object and (if a separate room) its location in the house;
- economic characteristics of its use;

- location, transportation accessibility and environment;
- the market of such property;
- valuation date and the date signed agreements with such property;
- ownership, legal status and other features of property and conditions of sale.

This method is implemented in three versions:

- 1) estimated on the basis of calculation of amendments in prices of comparable sales. This item separately assessed, the presence or absence of which increases or reduces cost of ownership. Then add the cost of analogue or subtracted from the cost element and it is determined the estimated value of the object;
- 2) and 3) estimated on the basis of expert amended (in monetary terms, or the percentage). The value is present or absent element is established expert in absolute terms or cost (in USD) or a percentage of the total cost of the item. Next to the received value of the item excluding the cost or added (subtracted) the cost or the amendment is taken into account by multiplying the value obtained for the corresponding boost (step-down) the correction factor.
3. *Estimation by regression analysis.* If there is a lot of unique sales, by simple calculation and analytical procedures can be performed correlation and regression analysis of the impact on the value of the main factors PRICE and bring multiple regression formula. Substituting it in quantitative values PRICE factors can determine the cost (usually percentage) of the assessment and multiplying it by the value of calculated values, get the value of the object.
4. *Based on the ratio of income and sales price.* This method has two variants: the calculation, which is based on gross rental multiplier, and one that is based on the overall capitalization rate. Characterize them.

Gross rental multiplier (GRM) - a synthetic indicator, due to sale price ratio of the object to the annual income from its operation. This index, calculated for a sufficient number of objects-analogues and averaging can be used to determine the value of the property follows. Income derived from (exploitation) of the estimated object multiplied by the arithmetic mean value of RMR values derived by object-analogues, and the result is determined by the estimated value of the object.

Thus, the stages of application of this method is:

- determine the amount of annual income from the operation of the estimated object;
- determination of GRM for objects already sold-analogues;
- determination of GRM calculated as an average RMR values for object-analogues;
- determining the value of the assessment by multiplying his income to the current RMR, i.e.:

$$C = D \cdot GRM \quad (21.2)$$

where C – the market value of the assessment, UAH;

D – Expected annual income from the use of the assessment, UAH;

GRM - Gross rental multiplier.

The total capitalization ratio (TCR) - is determined by inverse ratio, i.e. by dividing the expected return from the operation of facilities-analogues on the amount at which items were sold-analogues. Stages of this method provide such a sequence:

- determined by annual income, which takes place on evaluating object;
- TCR calculated for similar objects;
- determined by their average value;
- is determined by dividing the value of the income from the operation of the estimated object to the estimated value TCR:

$$C = \frac{D}{TCR} \quad (21.3)$$

where TCR – total capitalization ratio.

As for real estate national standards state that a comparative approach involves the following sequence of evaluation procedures:

- collecting and analyzing information about the selling or offering such property and determining the objects of comparison;
- choose the method of calculating the cost of the assessment, taking into account the amount and accuracy of available information;
- comparison of the assessment with the objects of comparison with further correction of the selling price or price comparison sites offering;
- determining the value of the assessment by considering amendments to the magnitude of adjustment costs compare objects;
- coordination of the result.

21.7. Methods of valuation: income approach

The benefit of property ownership include:

- The holder's right to receive income during ownership (whether income from the direct object of exploitation - the use of its owner in their functions, or income from property is to rent);
- The possibility of receiving income from the sale of property ownership after (reversal of income).

At the same time receiving income may be limited in time, then you should take into account income from reversal. There might be an infinite period and receipt of income, if using the principle mode, can be tentatively assumed that the owner acquired the object "forever" and it is only interested in obtaining long unlimited income, which excludes the further sale of an item and receiving benefits from the reversal. It can be considered an option when, in contrast to reversion, the value of the property investor returns annually particles as receiving income. However, the size of annual income included partial repayment of principal amount invested capital and income on the balance on the expected return rate.

In theory, estimates there are two generally accepted methods for the transformation of future (expected) cash flows from owning property in the assessment of its value:

1. Discounting revenue (indirect capitalization) - method, based on the transformation of future projected income and limited time period in their current (on the valuation date) the current value:

$$C = \frac{D_1}{(1+i)^1} + \frac{D_2}{(1+i)^2} + \dots + \frac{D_n}{(1+i)^n} = \sum_{k=1}^n \frac{D_k}{(1+i)^k} \quad (21.4)$$

where C – the present value of cash flow;

D_1, D_2, \dots, D_n – expected annual yield of 1, 2, ..., n the year, UAH;

i – discount rate;

n – period of years;

k – number in the interval period.

2. Direct capitalization - the method uses the capitalization ratio, which reflects the relationship between:
 - revenues for 1 year previous;
 - the average value of income in a few years earlier;

and value of the enterprise (site).

$$C = \frac{D}{(1+i)^1} + \frac{D}{(1+i)^2} + \dots + \frac{D}{(1+i)^\infty} = \sum_{k=1}^{\infty} \frac{D}{(1+i)^k} = \frac{D}{i} \quad (21.5)$$

where D – Expected annual annuity income, USD.;

∞ – a period of infinity.

Direct capitalization of income method involves the following sequence of evaluation procedures:

- prediction of gross income based on analysis of collected information about renting a similar property in order to analyze the conditions of rent (the amount of rent and common lease terms) or similar information on use of property;
- forecasting operating expenses and net operating income (rental income) (usually one year from the date of assessment). Net operating income is calculated as the difference between gross income and operating expenses. Rental income - the difference between the expected gross income from sales, received on land and production costs and profit of the manufacturer;
- study evaluating selection procedures for determining the capitalization rate and its calculation;
- the cost of the assessment by dividing the net operating income or rental income capitalization rate.

Indirect method of income capitalization (discounted cash flow) provides the following sequence of evaluation procedures:

- study period forecasting;
- forecasting gross revenue, operating expenses and net operating income (rental income) in years, months or quarters within the forecasted period;
- justification of the choice of valuation procedures for determining the discount rate and its calculation;
- determining the present value of cash flow as the sum of net present value of operating income (rental income);
- forecasting and calculation of the cost of reversal of its current value;
- determining the value of the assessment amount as the present value of cash flow and present value of reversions.

Since the basic principle of assessment methods are based on a revenue approach is the principle mode, in practice, all idea of the size of expected future revenues are based on assumptions that have to be as reasonable. Discounting (indirect capitalization) as a method, not a problem for practical application. So the future we will focus on addressing issues that part of the theory estimate of the direct capitalization, where the basis for calculating the cost of accepted formula:

$$C = \frac{D}{i} \quad (21.6)$$

where D – Expected annual annuity income, USD;

i – discount rate (capitalization).

Prediction of future income (the definition used in calculating the values of the numerator) by or on business planning, and provides that in future annual income will reach a value equal to the revenue for the year preceding the assessment date or the average annual value of income received by several previous years.

In practice the evaluation made use of such concepts.

The potential gross revenue - the revenue that can be obtained at full load capacity, full employment, the effective management and others, That the use of all that is the owner of the best, most effective way.

Actual (Effective) Gross Income - The revenue derived by taking into account the actual or projected level of unemployment in the use of productive capacity (e.g. from part-time tenants provided in the lease area) and loss of income deficiency other reasons, usually not associated with functional use of the object. This may be the failure of the buyer put products manufacturer (delayed payment) or, say, deficiency rent through non-payment or delayed its introduction unscrupulous tenants. Together, these losses are called vacancies. Actual gross income for their content close to the concept of "sales revenue".

Net operating income - it is really gross income excluding transaction costs. For net operating income content close to the widely used concept in economics - profit.

Operating expenses include:

- fixed costs;
- variable costs;
- provision for replacement.

Called regular expenses that do not depend on the dynamics of output and employment facility.

Until costs are variable in size directly related to output and employment.

Reserve replacement - the costs associated with replacement or modification of elements of object lifetime are considerably smaller than the object as a whole.

The house, for example, for the entire period of operation several times to change the roof, flooring, internal and external elements of treatment, sanitary and electrical fittings and fixtures, appliances and mechanical equipment, exterior landscaping. This group also includes the costs of current and cosmetic repairs, if they must carry the owner - the landlord.

Cash flow - a net operating income excluding the amount of annual debt service. Cash flow is determined if the property is acquired for their own and borrowed funds.

Debt service - a borrower's financial obligations to the creditor. Borrower agrees to repay the lender and pay interest on it. Loan repaid in installments over time and taking into account interest on borrowed funds, charged on the remaining debt after the reporting period. If the property at the time got without borrowing, debt and obligation, and it has no cash flow in this case is net operating income. Cash flow (net operating income) in the estimate can be defined as de-taxes and after-taxes basis.

To conform with the appraisers' using information about income from the operation of the object in the period preceding the assessment, it is necessary to review and regroup. This process is called reconstruction report earnings. Of course the company reported on revenues, expenses and income does not meet required for the evaluation of: actual gross income, taking into account vacancies, operating expenses (fixed, variable, reserve for replacement), debt service taxes. When reconstructing the available information must be provided and used by the appraiser in this condition.

The discount rate - a rate of expected return on investment. It is displayed as a percentage ratio of income to investments. Her determination to use when assessing the value of can be done by several methods:

- cumulative method of construction;
- method of comparing alternative investments (comparative market analysis or extraction);
- method of allocation;

- monitoring method (followed by statistical sampling) and others.

The most acceptable and frequently used by appraisers is the cumulative method of construction, which includes: at the time of evaluation according to official figures (usually, it is openly published information Ukrainian office of financial and analytical services) definition of risk-free discount rate. Next to her so-called value added compensation for risk.

In general, risk-free discount rate reflects the guaranteed minimum level of profitability that at the time of assessment may itself provide the investor, checking all alternative investments. Typically, selected as investing in government securities or deposit in the leading and most respected banks. At this time in domestic practice, independent evaluation is made on the level of average competitive rates for deposits in hard currency or local currency in the most reliable domestic banks. During the period 2006-2007, she is around 9-11%.

Here are the most typical choice for the further operation of the estimated object of risk factors and establish the value of compensation for risk. This takes into account all significant risk factors in the forecast period may affect the profitability of the object. Among the risks that are counted are distinguished:

- risk of changes in risk-free rate. It takes into account differences in the degree guarantees income payments. If objectively compare contributions in government bonds in the U.S. and Ukrainian treasury bonds, more exposed to the second option;
- differences in investment liquidity. Objectively invest in various objects by their nature need a different owner for a possible treatment option, return on investment. Liquidity - a degree of probability of conversion of property that is acquired for cash, money back. Much of this is driven by different market conditions formed on various kinds of property. Significant role in this play consumer tastes, functional quality, scale, etc.. Always remember that evaluating object may not always be quickly converted into money without some losses. For example, different liquidity and have a 1.2 room 5.4 room flats, built-in office area of 30-80 m² and 3, 5, 9 - and more storied office buildings, auto service stations and plants producing chemical fertilizers;
- differences in investment. Term investments in real estate or industrial production (business) are longer compared to bank deposits or purchase of securities available. Buying on credit is also different from buying live on cash. Save the profile of the enterprise that buys and preserve jobs (investment commitments) to some extent burdened investors when compared with the same purchase without restrictions on further use;
- Specific industry risks. They are associated with certain peculiarities of production and organization in various areas. Differ in terms of future profitability of investment in scientific development of insecurity meat cattle breeds from investments in oil and gas production and restaurant business;
- specific risks inherent in the enterprise. They are related to differences in the state of affairs in various companies of one industry. In assessing the facility should examine all relevant factors are favorable and threatening its operation. This level of management, relations with suppliers and customers, its position at the local and national market, the prospects for sustainable development it;
- risk of changes in location and environment. For real estate physical location can not be changed. However, the description of the location of utility subject to significant factors affecting the environment that is changing. Subsequently, the central historic core of the city that has always attracted people and the place was crossing the main pedestrian and traffic flows, may lose this advantage. This may be due to the intensive construction of commercial

and residential property on more profitable areas of these goals. Later in this space can move the main trade, cultural institutions, the advantages of placing objects in the administrative office of destination. In other words, the change of urban planning, urban infrastructure development and implementation of transport interchanges can shift "center" of the city. This fact immediately affects the value of property situated in any area. For all other equal PRICE factors and physical characteristics of objects will have different value objects placed in comfortable and lived-in neighborhoods and in areas of heavy construction (development), which are giant construction sites;

- the need for competent management. What riskier investments, the better and better management they need. Lack of management skills and experience in management publishing-related considerably less risk than the low quality of management and therefore possible errors in the operation of nuclear power stations. The risk inherent in companies with both explosive and fire dangerous and environmentally hazardous activities, and businesses with low probability of receiving income;
- Financial risk. Below that most understand the conditions for its takeover and borrowed funds. If the investments of the participation of own and borrowed capital, the difference in the amount of shareholding in the property during the evaluation is to influence the degree of riskiness of investments. The higher the ratio of equity, the lower risk investment. The significance of this factor can be established by determining the size of the effect of positive and negative financial leverage. If borrowed funds borrowed under a smaller percentage than the overall expected rate of return (return) of joint investments, it is about the expected positive effect of financial leverage. Return creditor under contractual interest in this case allows the investor to provide more revenue and, accordingly, will be greater than the rate of total income for joint investment, return rate on equity. If the total expected rate of return of joint investment of less fixed percentage of the loan - will place a negative financial effect leverage;
- risk of changes in legislation. The stability of domestic economic legislation promotes business stability. Invariant time "rules" provide assurance business in ensuring sustainable profitability. It is possible to build more realistic plans for their development more accurately predict the receipt of future revenues. However, the dynamics of socio-economic relations requires an adequate response from the law. Subsequently changing strategic goals and priorities in the national economy, changing the balance of power in the global market place changes at the macroeconomic level. This causes some changes in laws and, consequently, in economic and socio-political conditions of doing business. Writing, for example, the law on the taxation of property or changes in land law cannot affect the interests of investors. According effect on the business value;
- the risk of unforeseen natural, social and socio-political phenomena. Natural disasters, social and political unrest, regional wars, conflicts and chaos, of course, could jeopardize the business. In all the business deals partly by the availability of force majeure - the action of force major. Sometimes in business a special place is a danger of theft of property or a high probability of intentional damage. This is a very specific risks, but for certain types of businesses they can be significant; expectations.

By itself, inflation - a phenomenon which exists objectively and without exception found in all national economies, based on the civilized market relations. Inflation is accompanied not only the countries that are actively developing economies but also with a long tradition of market relations. So inflation is always in sight of businessmen. Jumping inflation is usually caused by numerous factors and events not only purely economic nature. They always threaten the real

profitability of the business. To some extent they are fairly predictable, but for the dangerous business of all is the differences in the values of its predictive value real and formed after the end of the forecast period. In the case of a stable economic, social and socio-political situation and its international position during the time preceding the date of assessment and in the near future to it, expect a sharp change in the level of inflation in the forecast period is not necessary. Another thing - if there are obvious dangerous destabilizing factors that may be harbingers not only a sharp jump in inflation, but economic transition to a state of hyperinflation. Therefore, this compensation is not a risk to inflation expectations and to its rapid change.

Size increments for each of the above risks to the recommendations of leading international consulting firm is in the range from 0% to 5%.

Technique involves the use of discounting four teaching units:

- 1) the estimated discount rate;
- 2) the effective discount factor;
- 3) several factors compound interest;
- 4) split discount rates.

Using the estimated discount rate. This approach is applied to discount the future, usually annual, cash flows to bring them to the current value. Future annual income amount is reduced to a single present value using the formula:

$$a_n = \frac{1}{(1 + i)^n} \quad (21.7)$$

where a_n – the present value of future single year's income;

i – discount rate;

n – period of years;

Value of the object is determined by the present value of future earnings for the period of ownership, including income from the reversion, i.e. the income from sale of property after a period of possession.

Using the effective coefficient of discounting. When determining the discount rate by this method takes into account the nature of discounting future receipts (payments) with frequency - 1 every year, half, quarter, month, week, day. The nature of discounting the frequency determined arbitrarily, based on the goals and objectives of investment or lending. Discounting mechanism remains the same, but especially to obtain present value of future cash flows of individual has the following features:

$$a_n = \frac{1}{\left(1 + \frac{i}{m}\right)^{n \cdot m}} \quad (21.8)$$

where i – the discount rate (annual rate of return);

n – period (number of years which are discounted) years;

m – discounting frequency intervals throughout the year;

Value of the object is defined, respectively, the sum of present values of future income generated by the related interval period.

Using multiple factors compound interest. Future use of the revenues are equal, that annuity. Reduction to present value of annuity income by using the formula of one of the 6 functions currency (compound interest factor) - the current value of an annuity. Determination of reversion, that is brought to the present value of revenue from resold, determined using a function currency (compound interest factor) - the current unit value. Thus, the present value of future income will be isolated:

$$a_n = a_{nPVA} + a_{nPV} = \left[\frac{1 - \frac{1}{(1+i)^n}}{i} \right] + \left[\frac{1}{(1+i)^n} \right] \quad (21.9)$$

where a_n – the present value of future single annual income for n years;

a_{nPVA} – the present value of future single annual annuity income for n years;

a_{nPV} – present value of future income from the reversal of the unit in n years.

Use shredded discount rates. Annual income from the operation of an investment may be linked to other risks, requiring appropriate compensation to the terms, the discount rate than the resale of the object after the period of ownership. Accordingly, the bringing in of future revenues from income and operating income of reversion should be used different discount rate. Bringing to the present value of single annual revenues, and that will be of value object, in this case by using the formula:

$$a_n = \frac{1}{(1+i_1)^1} + \frac{1}{(1+i_1)^2} + \dots + \frac{1}{(1+i_1)^n} + \frac{1}{(1+i_2)^n} \quad (21.10)$$

where i_1 – the discount rate for income;

i_2 – the discount rate for reversal;

n – period of years.

Determination of the cost of revenue by the direct capitalization approach requires determining the capitalization rate.

Capitalization - a conversion into money capital has acquired property that provides income. At the time it looks like the initial investment in property revenues - investments and future revenue opportunities from its use. This made possible to consider two options:

- 1) property investor suffers forever, returning the principal amount invested capital is not expected from subsequent sale (reversion, off a one-time refund the entire amount of invested capital), or return it to retail as far as receiving annual income;
- 2) property that is acquired, provides for the receipt of annual income investor, who later (parts) and provides a return of principal investment, and income on the balance of deposited amount.

Rate of return on capital (NPC) shows a portion of the principal amount invested investor returns during the year. Return rate on invested capital (the discount rate i) reveals that part of the deposited amount of net income, receipt of which is due to these investments. Norm return of capital in the academic and analytical literature taken mark symbol - (of), rate of profit on capital - (on).

This option assumes full return of principal equity investor and receives income on him for some time period.

Based on two options for methods of determining the capitalization rate can be classified as follows:

- the rate of discount;
- based on comparable sales;
- methods of summation:
 - Ring method;
 - method of Inwood;
 - method of Hoscold;
 - return of the share capital;
- subtraction method;

- method-related investments;
 - for components of the property;
 - for equity and debt capital;
- Ellwood method.

Characterize each of them.

1. For the discount rate. Capitalization rate equals the discount rate, if:

- receipt of income is not limited in time;
- the expected revenue is equal, annuity;
- the value of property obtained afterwards will not change.

Capitalization rate will thus:

$$R_z = i \quad (21.11)$$

where: R_z – total capitalization rate;

i – discount rate.

2. Based on comparable sales. If the appraiser has information about these sales, the capitalization rate can be set as follows. For every sale is determined by the ratio of income provided by the property, and selling price. Then determined the average - the total capitalization rate as used to estimate the object.

This procedure is similar to determining the value of the assessment method of comparative approach ratio of income and sales price. The difference is that here this methodical approach is regarded as one of the methods of determining the capitalization rate. This rate is equal to the discount rate (on), and may consist of two elements - the rate of return on investment rules and capital return (on + of). It depends on which option property ownership on the above question.

3. Summation methods. Overall capitalization rate is defined as the amount of the discount rate and return of capital rules. These methods include:

- a) Ring method, which is characterized by forthright return of capital. The investor expects annual capital return equal parts (of) and of the remainder, have interest rates of return (on).

Capitalization rate will thus:

$$R_z = i + NPK \quad (21.12)$$

where R_z – total capitalization rate;

i – discount rate;

NPK – the standard uniform (equal on years n years) return of principal capital.

- b) Method, of Inwood characterized by the return of capital to fund compensation factor. The investor expects to return on capital reimbursement fund factor (one of the 6 functions of the monetary unit - factors compound interest) and of the remainder, have interest.

Capitalization rate will thus:

$$R_z = i + SFF \quad (21.13)$$

where SFF – standard repayment of principal capital fund compensation factor.

- c) Method of Hoscold that provides for return of capital to fund compensation factor in the case of risk-free discount rate. The investor expects to return on capital reimbursement fund factor (the discount rate, estimated to be risk-free) and of the remainder, have interest on the expected rate of return.

Capitalization rate will thus:

$$R_z = i + SFF_{br} \quad (21.14)$$

where SFF_{br} – target return of principal capital factor compensation fund provided risk-free discount rate.

- d) return of the share capital by means of Inwood and Hoscold methods. The investor expects to turn over the ownership of share capital, assuming that after a certain period of the likely reduction in future property that acquired today, it will return only part of the invested capital.

Capitalization rate will thus:

$$R_z = i + NPK(SFF; SFF_{br}) \cdot a \quad (21.15)$$

where $NPK(SFF; SFF_{br})$ – target return of principal methods of capital Inwood, Hoscold;
 a – a ratio of capital value of the returned (principal) for the period (linear decrease in property value).

4. Deduction method. Used in the event that will grow in the future (e.g., uniform linear) value. Capitalization rate is determined by subtracting a discount rate of allowances for future gains. Premium is determined in this case by multiplying the projected increase in the cost of capital rate of return (NPC, SFF, SFFbr).

Capitalization rate will thus:

$$R_z = i - NPK(SFF; SFF_{br}) \cdot a \quad (21.16)$$

where a – is coefficient of capital gains, which returns (principal) for the period (linear increase in property value).

5. Method of related investments (technology investment group). Overall capitalization rate is defined as a weighted average capitalization rates of the various interests in the property. It applies:

- a) for the components of property (for private interests). This capitalization rate is determined by the availability of different rate of return that applies to different parts of the property. These may belong to the land plot and located on her house, farm property, which relates to production agricultural raw materials and its processing and etc.

Overall capitalization rate at this store:

$$R_z = L \cdot R_L + B \cdot R_B \quad (21.17)$$

where L – is the cost of one share of physical interest in the total cost of ownership - the land;
 B – is another part of the value of physical interest in the total cost of ownership - building;
 R_L – capitalization rate for land;
 R_B – capitalization rate for the building.

Overall capitalization rate can also be defined by the formula:

$$R_z = R_L \cdot \frac{L'}{L' + B'} + R_B \cdot \frac{B'}{L' + B'} \quad (21.18)$$

where L' – land value;

B' – the cost of building;

- b) equity and debt capital (for the financial interests). This capitalization rate is determined by the availability of property investments in equity and debt capital. Equity and loan capital may also provide a different rate of return.

Equity capital - a personal investor assets except for its obligations. Borrowed capital - is held by the funds to the public in buying property. Typically, the lender is given to the borrower (investor) for a specified period under a certain percentage of financial credit, participating in purchasing property that provides income and demand after the expiration of their loan repayment

of creditors and interest payment for them. Borrowings for the investor takes the form of its obligations.

So, theoretically you should identify the three variants of common equity and debt investment capital:

- 1) investors and lenders, buying property, want to return the invested capital and to ensure receipt of his expected return (*of + on*);
- 2) The investor gets the property "forever", and his only interest income (*on*), while the lender requires full servicing of their loan - repayment of principal and payment of interest thereon; (*of + on*);
- 3) investors and lenders acquiring property "forever", both parties are only interested in return on capital, while they do not require repayment of the principal amount invested capital, that is (*on*).

Overall capitalization rate at this store:

$$R_Z = M \cdot R_M + (1 - M) \cdot R_E \quad (21.19)$$

$$R_Z = M \cdot R_M + (1 - M) \cdot i_E \quad (21.20)$$

$$R_Z = M \cdot i_M + (1 - M) \cdot i_E \quad (21.21)$$

where M – the share of debt capital in the total cost of ownership;

$(1 - M)$ – share of equity in the total cost of ownership;

R_M – capitalization rate debt capital, (*of + on*) M ;

R_E – equity capitalization rate, (*of + on*) E ;

i_M – discount rate for debt capital, (*on*) M ;

i_E – discount rate for equity, (*on*) E .

Sometimes in the academic literature found more detailed view of the formula 21.21:

$$R_Z = i_M \cdot (1 - H_{np}) \cdot \frac{M'}{M' + E'} + i_E \cdot \frac{E'}{M' + E'} \quad (21.22)$$

where i_M – the discount rate for debt capital, (*on*) M ;

i_E – discount rate for equity, (*on*) E .

M' – the amount of loan capital;

E' – the amount of equity;

$(1 - H_{np})$ – part (a share) profit remaining after paying income tax lender.

If the creditor does not require repayment of principal capital and participates in joint ownership with the investor to infinitely long receiving income on their capital (*on*) $_M$, the benefits derived by him is his income and therefore taxable income.

So important are the following definitions.

- Earnings ratio of debt capital (mortgage constant) - is the annual amount of debt service (payment for a mortgage loan) to the debt (mortgage amount). It contains the amount of interest rate rules and return of capital, usually at the level of factor SFF (Inwood's method),
- Capitalization equity ratio - the ratio of cash flow (net operating income minus debt service) to the amount of equity. Also includes return rate and rate of return of capital.
- Return rate on borrowed capital and the return rate that falls in equity based only on the level of profitability, that is (*on*).
- When an investor involves purchase income property loan capital, which requires full repayment of loan conditions (full debt service, i.e., repayment and payment of interest on it), the overall capitalization rate determined with the use of debt coverage ratio.

Overall capitalization rate at this store:

$$R_z = R_M \cdot M \cdot K_{п.б} \quad (21.23)$$

where $K_{п.б}$ – is debt coverage ratio.

Debt ratio is defined as the ratio:

$$K_{п.б} = \frac{D_{ч.о}}{A} \quad (21.24)$$

where $D_{ч.о}$ – is net operating income (annual) expected from the common use of property, USD; A – amortization of loan fees - year (in this case the annuity) payment of debt service (of + on).

6. Ellwood's method is based on the building mortgage and investment Ellwood's model, requires some prior knowledge and therefore in this section is not covered.

Questions for self-check:

1. What are the origin preconditions for professional evaluation in Ukraine?
2. What are the orientations of evaluation usage?
3. Describe the subjects of valuation activity: their status and legal form. What are formal legal requirements to a valuer?
4. What are the forms of professional valuation activity?
5. What is the classification of valuation objects? Give the definition of property and right of property.
6. What are the principles of evaluation?
7. What is commercial value?
8. What are non-market valuation bases and kinds of values?
9. What are the technical approaches to property evaluation and what are their general characteristics?
10. Give the definition to demolition by the methods of layout and of age.
11. Characterize the methods of restoration overall cost rating.
12. Characterize the methods of substitution overall cost rating.
13. Characterize the evaluation method in the range of comparative approach.
14. Characterize the evaluation method in the range of profitable approach. What is potential, active gross revenue and vacancies, net effective operational income, cash flow?
15. Give the definition of discount rate. What is certain discount rate and compensation for risk? What are the methodical peculiarities of discounting technique?
16. Give the definition of capitalization rate. What does the main point of summation methods consist in?
17. Give the definition of capitalization rate. What is the method of leveraged investment? What does the main point of remains technique consist in?

CHAPTER 22. EXECUTION OF DOCUMENTS

A document is a complicated tangible object, information system, unity of elements which constitute it. A separate element of a document is called requisite.

A set of requisites as obligatory data or components for a certain type of document constitutes a form pattern of a document.

There are forms of letters, orders, instructions etc.

Form pattern of the document determines its format, margin size, main requisites as for its type and purpose.

The constant quantity of requisites without which it cannot have legal validity is to be defined for a certain type of document.

Documents are to be constituted in strict accordance with the standards of current legislation.

The classification of documents according to:

- *type – application, letter, order...;*
- *provenance – official and personal;*
- *place of appearing – internal and external;*
- *purpose – organizational, administrative, informational and inquiry, economic and contractual,...*
- *form – standard and individual;*
- *direction – incoming, outgoing, internal;*
- *level of publicity – for common, official use, secret, top secret;*
- *difficulty – simple and complex;*
- *storage life – temporary, continued, permanent storage;*
- *time of performance – ordinary indefinite-term, with definite term of performance according to the current legislation or chief's resolution, urgent and very urgent;*
- *stages of making – draft, original, copy (copy varieties: issuing, extract, duplicate);*
- *information carrier – paper, disk, film, floppy disk, tape (magnetic, paper...);*
- *technique of making – handwritten, due to technical facilities.*

Documents are classified according to the features of similarity or difference.

22.1. Execution of official documents

Official documents, which are made in the organization, must have the complex of obligatory requisites and the constant order of placing them: name and requisites of the document issuing institution, outgoing references and date, document type, text, signature, draftsman information (last name, initials, and telephone). When letters are sent by electronic mail, sender mail box number is also to be indicated.

On the order and precept drafts, as well as on their originals index of an organization unit preparing the document must be put at the end of the page below the official's signature.

When preparing and executing documents, obligatory requisites may be supplemented with other requisites.

A4 and A5 paper size forms are used for making official documents in an organization. Forms are produced in accordance with state standard. The following kinds of forms are determined:

- administrative document forms: orders, precepts, certificates of business trips, applications for holidays, for name change etc;

- common letter headed paper of an organization.

Letters, reporting notices, certificates and other documents prepared by an organization with other organizations, documents meant to be used inside the organization are made on blank papers and on form.

When preparing and sending documents by means of electronic communication, official forms are not used.

The organization name is stated exact as it is in the Statutes. Arbitrary abbreviation of the institutions name and of certain words is not permitted.

Document Dating

All official documents are dated. Documents date is the date of its signing; for documents adopted by a collegiate body it is the date of its adoption; for confirmed documents it is the date of its confirming.

Documents come to legal effect after the date of their signing (confirming) if other date is not provided in the text.

Documents made with other institutions must have the same day of signing.

The date on the documents is put by a person who signed or confirmed it while signing or confirming respectively. In other cases the date is put by a person registering a document. The date of letter signing is put with the registration index on the specially designed place, i.e. on the left upper part of a form. If the document is made not on a form, its date is written below the signature to the left of the margin without an indentation. The confirming date is written in the relevant column after responsible person's signature.

Document Agreement

The document draft agreement is carried out in case of necessity.

The agreement is executed by means of document draft visaing by an official according to the activity area and competence level. Visa contains position title, personal signature, initials and last name of a person who visas a document and the date of visaing.

Visa is put on the front side of the document last page below the signature or on the back side of the document last page.

Remarks and suggestions to the document draft are stated on the separate piece of paper, concerning which the note "Remarks Are Enclosed" is to be written. If a person who agrees the document draft does not agree with the information stated, remarks must be dated.

Document draft agreement is marked with the stamp "AGREED". It is put below the signature on the front side of the document last page noting the person's position with whom the document is agreed, writing out the signature and the date of agreement, or near the affirmation stamp on the front side of the document first page in the left upper corner.

AGREED

Chief Engineer

(signature) (initials, last name)

17.01.07.

Document Certification

Documents certification is performed by their signing, affirming and sealing.

Documents are signed by the organization officials according to their competence, functional duties division, instruction regulations concerning office work and chief's orders as for the right of the organization deputy director to sign documents and the right to certificate them with the official seal.

If a person whose signature is on the draft document is absent, a person who executes his/her duties or is his/ her deputy signs the document. Position of the person who signed the document and the last name must be stated. Corrections should be made either with black ink, or typing, for example “Acting”. **Signing the document with the preposition “instead of” or putting slashes before the position is not permitted.**

Document affirmation is performed by the affirming stamp or issuing the administrative document. Normative legal documents (regulations, instructions, rules etc.) are to be affirmed by the institution correspondent administrative document according to the activity area and competence level.

If the document is affirmed by the certain official, the affirmation stamp consists of the following elements: word “AFFIRM” that is written with the capital letters on a line without a paragraph, position, signature, initials and last name of a person affirming the document, and affirmation date:

Affirmation stamp is certificated with the official seal that is enclosed to the stamp on the document affirmed by a responsible official.

AFFIRM
Deputy Director
(signature) (initials, last name)
Date Place of Seal

When affirming the document with the administrative act the stamp of the following form is put

AFFIRM
Director Order
Business Owner «Sonechko»
01.03.2007 #24-I.

The official seal must affirm the signature of a responsible person signing documents that certificate civil rights and rights of a legal person, funds expenses fixation, material assets (licenses, statute, regulations, contracts, acts, certificates, orders, agreements etc). List of this and other documents to which the official seal is enclosed is determined by an order or regulation of the organization chief or on the ground of the effective commercial acts.

Non-official seal reflecting organization name or its structural units: staff department, preparatory division etc is enclosed to documents that are signed by organization officials according to their level of competence, to document copies that are sent to other institutions, to copies of administrative documents when sending them.

Seal impression should be put in such a way that it covers a part (3-4 signs) of a person’s position who signed the document or on the place predetermined by document form (place of seal).

Revising or adding something to the document that is signed or affirmed by an official is strictly forbidden.

Document Addressing

When addressing a document following rules should be abode:

- if the document is sent to the institution or to its units their names are written in nominal case, for instance:

Ministry of Health of Ukraine
Department of Personnel Management

- if the document is sent to an official, institution name is written in nominal case and position and last name are written in dative case. (In English language dative case is rendered by prepositions *to* or *for* – translator’s note). For instance:

Fiscal Policy Office in Sumy Region
 Department of Foreign Citizens Affairs
 To the Chief
 Ivanov I.I.

- if the document is addressed to the institution chief or his deputy, institution name must be contained when writing addressee’s position, for instance:

To the Chief of
 Scientific and Production Company
 Zirka
 Petrov P.P.

- when addressing document to several similar institutions, the addressee is stated generalized, for example:

To Presidents of Educational Institutions
 III-1Y Levels of Accreditation

As a rule document should not have more than 4 addressees. The word *copy* is not written before stating the second, the third, and the fourth addressees. When sending a document to more than four addresses, the mailing list is made and only one addressee is stated on each document.

Order and form of writing the information concerning postal and telegraphic address of an organization should correspond to Postal Rules of Ukrainian National Communication.

The full postal address is written when a document is sent to one-time correspondent, for example:

10 Peremohy Street
 10000, Kyiv

When addressing a document to a private person, it is the last name to be put on the first place, then the name and middle name of an addressee, and after that postal address, for instance:

Sidorov Ivan Semenovych
 40 25 Kosmonavtiv avenue
 40021, Sumy

Resolution

Resolution is put in the upper side on the front of the document first page. On reporting notices, letters and other documents containing requisite *Addressee* resolution is put between an addressee and text of a document in the upper left corner of a paper sheet.

If there is not enough of space for resolution, it can be put on the other place without the text, in the upper side on the front of the document first page (but not on a margin meant for filing).

Putting the resolution on the text is forbidden.

Enclosures to Documents

Enclosures supplement, explain certain questions of the document or the whole document. When the enclosures are present, it should be stated in the text, or they should be placed between the document text and signature.

Document enclosures may be of the following types:

- enclosures that are affirmed or joined into force by administrative documents of the higher and supervisory bodies;
- enclosures that explain or supplement the contents of the principal document;

- enclosures that are self-standing documents and are sent with an accompanying letter.

Enclosures to organization administrative documents must have a note with references to this administrative document, its date and number. Such note is put in the upper right corner of the enclosure first page, for example:

“ENCLOSURE
Order of Ministry of
Education and Science of Ukraine
03.01.2007 #13”

In presence of several enclosures serial number is to be put on them, for example ENCLOSURE 1, ENCLOSURE 2 etc. The sign # before the numeral is not stated.

If the document contains enclosures full title of which is given in the text, the note concerning enclosures presence is stated according to the following pattern.

Enclosure: in the text on 2 pages in 2 copies.

- Enclosures:
1. Measures plan as to order fulfillment of Ministry of education and science of Ukraine 21.12.01 #314 on 5 pages in 2 copies.
 2. Measures fulfillment schedule on 1 page in 1 copy;

Execution of document copies

Document copy is made and issued only with assent of organization director, director deputy or chiefs of the correspondent organization units. Organization issues and certificates copies only of those documents that are used (prepared) in the organization. **To certificate and give document copies of other organizations and institutions is strictly prohibited.**

When deciding questions concerning accepting citizens for employment, certificating their labor, housing and other rights, when forming personal records of the employees, organization can make and certificate document copies issued by other institutions (diploma copies, certificates of education etc.) to use them directly in the organization.

Document can be copied by handwriting, machine-made or by means of instant printing. On the first document page in the right upper corner the note *Copy* is to be stated.

On outgoing documents copies that are kept in organization files form text is not reproduced. Only the date of document signing, its registration index, certification date, position of an official who certificated the copy and its signing are to be stated. Responsible official's signature is certificated by a corresponding seal according to the competence level of the official mentioned above.

Typing the Documents

Organization official documents are typed in the general office or in its organization units.

Manuscripts that are given to be typed must be written legible, with an ink or with dark ink ballpoint pen, carefully checked, agreed with the chief of an author's organization unit, and visaed. Title of the unit, telephone number, last name of an author, and the quantity of the copies required must be stated on the manuscript.

Documents with the stamp *For Official Use* are typed with assent of general office chief or of the unit that has the right to work with the documents mentioned above.

Typing work order is registered in the backlog where the document accepting date, its title, copy quantity and printed pages quantity, customer's last name and his/ her signature are obligatory to point.

Generally official documents are typed on a computer with Windows operating system in Word text editor keeping to the following rules:

- 14-15th points, Times New Roman font are used when typing texts;

- text of a document on A4 paper size forms is typed with one line spacing, on A5 paper size forms closer (*Menu – Format – Paragraph – Line Spacing – Exactly 0,8*). The corresponding patterns are created; executors are informed officially by the certain department;
- in document texts that are being prepared to be published 1.5 line spacing is used;
- document requisites are separated from each other with 2-3 line spacing;
- document title is typed with capital letters;
- writing out of the signature in the requisite *Signature* is typed on the level of the last line where the position is noted without a space between initials and last name;
- maximum line length of multiline requisites is 28 signs;
- if the title (contents) of the paper exceed 150 signs (5 lines), it is allowed to extend it to the end of the right margin. Full stop is not put in the end of the title.

Work executed must be numbered. Pages number must be put in the middle of the page by Arabic numerals without writing the word *page*, without a point or dash.

22.2. Management of documents circulation

General Regulations

Work flow is the documents movement since the time of their creation or receiving till execution, sending, directing them to archives or destruction.

An institution performs work flow management in its organization units on the ground of the institution instructions. Organization instruction concerning office work is created on the basis of Model instruction on the office work in ministries, departments, other institutions of the state authority... that is confirmed by the Cabinet of Ministers #1153 from 17 of October 1997 and on the basis of state standard of Ukraine for making organization and administrative documents.

Work flow of an organization includes incoming, outgoing, and internal (orders, regulations, instruction letters, acts, proceedings, certificates and so on) documents and citizens' appeals.

Work on the documents of internal correspondence (between organization units, departments and services) is held in organization units of a company.

Organization unit workers deal with documents made in this unit and with documents sent from director's reception room, from other organization units by electronic mail, fax etc.

Workers of general department or administrative office, secretaries of organization receptions perform such kinds of activities with incoming, outgoing, internal documents and citizens appeals: receiving, opening envelopes, preliminary consideration, registration, submitting for consideration to company leaders and directly to executors, documents annotating with proposing the resolution and executors, taking under control, search of documents, inquiry and communications work on passing the documents, work flow analysis, receiving documents from organization units, their execution, closing envelopes and sending by means of postal service, fax or special post.

Workers who are responsible for office work in organization units of a company perform such kinds of activity: annotation of outgoing documents in log book, submitting for consideration to company leaders, sending for execution, controlling terms of execution, and also searching for documents on demand of units chiefs and general department chiefs, forming of executed documents according to the nomenclature.

Working Order with Outgoing Correspondence

Receiving Correspondence

The whole correspondence that comes into the organization is received, previously processed and distributed according to the purpose only by the organization general department (administrative office or sector accounting, organization secretary).

When the correspondence comes at off hours, it is received by the administrative department worker on duty of the main organization building.

Correspondence that is sent by electronic mail is received decentralized by users-addressees of the mail boxes. When it is sent by fax, it is received by the correspondent communication service or organization addressees.

Telephone messages are gotten by the reception rooms secretaries and when needed are sent to the general department for registration.

It is prohibited for other organization units to receive official documents and work with unregistered documents (except those of direct purpose).

When the document or its enclosures are missing, the number on the envelope does not correspond to the document number, when there are some other violations or damages, the person responsible for correspondence makes an act in two copies: one of which is sent to the sender together with the documents, and the second one is left in the general department. When the document is received without urgent enclosures, it is sent for registration with the correspondent record in the card or log book.

Documents that are executed in a wrong way (not signed, not certified), damaged or sent to the wrong address are returned to the sender or resent to the addressee.

Envelopes from the received documents are destroyed except for citizens' letters, law cases, claim notices, commercial courts orders, contractual and financial documents, and when the sender requisites can be defined only by the envelope.

Preliminary Consideration and Division of Correspondence

Correspondence that is received by the organization must be preliminary considered.

Preliminary consideration is held before division of documents that came, into that that need obligatory chiefs' consideration and into that that do not need it, taking into account their contents and on the basis of established division of obligations and functions.

Documents that are addressed directly to organization units or organization officials are sent to their addressees without the preliminary consideration.

The preliminary consideration is held by the chief (head) of the general department (administrative office, secretary) or incoming correspondence officer of the general department on the day of its receiving. Documents, telegrams, telephone messages, fax messages, electronic mails received from the public authority are considered immediately.

Correspondence that came to the general department (administrative office, secretary) is considered in the following way:

- Laws of Ukraine, acts and correspondence of the Verkhovna Rada, President of Ukraine, Cabinet of Ministers of Ukraine, Ministries of Ukraine, People's Deputies of Ukraine, central bodies of executive power, institutions of local government, and also the most important documents that contain principle information on activity and require decisions on the top level are sent to the organization chief;
- official documents from territorial administrations, institutions, companies of Ukraine and foreign companies, ministries and agencies, law-enforcement agencies if these documents are signed by the first chiefs or their deputies, other documents when they need organization chief to be involved are sent to the organization director and directors deputies;

- all other correspondence (addressed directly to organization units on their incoming numbers) is sent to the heads of organization units. This correspondence is given to those responsible for office work in organization units against receipt in the log book.

Correspondence with the note *PRIVATE* is given to the addressees unopened against the receipt after the registration of package, envelope according to requisites available. If it turns out to be official, it must be returned for further registration to the general department (administrative office) of the organization. Citizens' appeals are passed to the general department (administrative office).

Incoming Documents Registration

Official document is the correspondence that is performed on the form or has institution, organization stamp, legal address, registration requisites, and signature with noting the position of the person who signed the document.

Document is registered in the company only once with one numeration since the beginning of the year.

Correspondence that does not belong to the official and does not have certain requisites (form or organization stamp, registration indexes, signatures etc) is not registered. When need, this correspondence can be registered directly in the unit that has received it. When registered, documents are given certain symbols, i.e. registration indexes.

Official incoming document index on its registration consists of correspondent code, serial number since the beginning of the year and numerical index of the organization unit to which the document is given. After document coming to the organization unit, this index is supplemented by the file number according to the nomenclature (if the document is to be left in this organization unit). If the document was received to be reviewed only and must be returned to the general department (administrative office) or other executors, supplements on it are not stated.

Index of an official document on its registration in the organization unit consists of the organization unit index, file number according to the nomenclature and the serial number of incoming document registration since the beginning of the year. Organization unit index numeration is established by the order (instruction) on the company. Correspondent indexes are worked out by the general department (administrative office) and are obligatory to fulfillment in organization units.

Documents are registered on the file cards and in the log books. Documents received from the Ministries of Ukraine, from regional and city authorities, citizens' complaints and appeals are registered on the file cards.

All other documents are registered in the log books.

Registration of official documents of all kinds is performed on the basis of one numeration.

After complete fulfillment of the registration card, general department (administrative office or sector accounting) stamp or organization unit index (where the document is registered) indicating document date and index are pointed in the lower right corner of the first page, if it is not possible, on its back side. Incoming time is stated on urgent documents.

It is forbidden to put organization unit stamp on documents with the general department (administrative office or sector accounting) registration stamp.

Registration card copy is fulfilled for every registered incoming document in the general department (administrative office). This copy accompanies the document when giving it to the executors with receipt and information concerning references when they are needed.

After being handled to the executors, registration and inquiry cards are returned to the general department (administrative office, secretary).

Registration and inquiry cards form card files, which are organized, systematized and are kept for 3 years and then are sent to the archives.

Passing, Considering Documents and Giving them for Execution

It is workers of general department (administrative office), secretaries of reception rooms and responsible for office work in organization units who provide official document passing and sending them for consideration to the chiefs.

Documents with the stamp *URGENT* are sent to the chiefs for consideration immediately after receiving and registering them. Telegrams with certain contents, telephone messages, fax, and electronic mail belong to urgent documents.

It is prohibited to send documents for execution without registering them.

As a rule the chief reviews received documents on the day of their coming. If the document was received in the end of the working day, the time of their consideration is put off for the next day.

Urgent documents are reviewed immediately.

Documents reviewed by the chiefs are given to the executors only through the general department (administrative office, accounting sector), in the organization units through the person responsible for office work.

Incoming documents are sent for execution to another organization unit only through the general department (administrative office).

When considering the document, it turned out that it must be executed in the other organization unit it must be sent to the addressee in two days term through the general department (administrative office). The decision to send the document to the other organization unit is made by the chief who reviewed the document having agreed with the chiefs of the correspondent organization unit.

It is forbidden to the chief to send official correspondence directly to the executors or from one organization unit to another without proper registration in the general department (administrative office).

Order to the executors is given in form of contracted contents resolution that is put directly on the document on the free from text place, but not on the margin designed for filing the document. If there is no place on the document, resolution is to be put on the separate sheet of paper (chief's forms). There must be only one resolution on the document. **Executors are forbidden to correct and change chief's resolutions.** Only resolution author can make necessary changes in the order.

When the received document requires urgent execution, it is permitted to the executor to look through the document before chief's reviewing it.

The original document on which the work is over and all the materials to it are returned to the general department (administrative office).

Correspondent's request for returning the official document registered in the organization is fulfilled only on the basis of the official written inquiry with the signature of the official who signed the previous document.

International Correspondence Processing Order

General department (administrative office) performs accepting and processing of international correspondence.

International correspondence is registered in the separate log book mentioning limited information concerning document coming: - registration date, - correspondent name or country, - whom it is sent for consideration.

International correspondence is divided and sent in the following directions: - correspondence in foreign language addressed to the director or to his deputy, and without mentioning definite official is sent by the general department to the foreign affairs department for the preliminary consideration and if necessary for translation; - correspondence addressed directly to the organization units or organization officials is sent by the general department straight to the units; - international scientific and technical and informational literature (books, journals) is sent to the library, reports and other statistical information to the addressed chiefs.

When the international document needs to be translated and considered by the organization chiefs, the foreign affairs department gives the document original and visaed by the author translation to the general department (administrative office) for registration.

The procedure for initial correspondence

General rules of office correspondence

To coordinate and reduce the flow of correspondence, to follow the necessary official subordination and ethics, official correspondence is performed as follows: - letters to Verkhovna Rada, Presidential Administration, Cabinet of Ministers of Ukraine are to be sent only over the director's signature, and in case of his absence – over the signature of the person acting for him; - letters to the highest officials of ministries and other central institutions, deputies of Ukraine, regional state administrations, territorial departments and agencies are to be sent only over the signatures of the director and the associate director; - sending office correspondence outward the company over signatures of any other persons which are not preappointed in this paragraph is prohibited.

Only the director and his deputies have the authority to sign letters made on the letterhead of the institution.

Heads of the organization departments conduct office correspondence using the relevant forms of their departments or on sheets of paper certified with the organization stamp within its competence.

Preparation of documents

Official documents that are created in the institution and beyond its borders are drawn up on standard format paper or special prescribed forms produced by a printing house according to requirements of state standards.

It is not allowed to draw up documents on free format paper or forms without foliation. It is not allowed to copy original forms.

Every document that comes out of the institution should have a complex set of mandatory details and stable order of their placement under the law.

Official documents for sending are issued in organization departments. The executor of a document is responsible for the contents of a document, visas, applications, seals, correct addressing, as well as for its signing by the company direction.

The initial documents registration

Office documents for sending are registered on the assumption of the following requirements: - all official documents without exception after signing are registered in the organization department which prepared them; - the documents which are sent over the signature of the director and the associate director, after registering them in the department undergo the mandatory registration in the general department (office).

It is prohibited to send or transmit documents without registration.

It is prohibited to reserve or to give the executors the initial numbers for not signed or not submitted to the registration documents.

A specialist (inspector) of initial correspondence of the general department (office) registers all initial documents of the company. Initial documents of organization departments are registered by the responsible for records management in organization departments persons.

The registration number of the initial document consists of the organization department index, the index of the official who signed the document, the case number according to the nomenclature (index of the registration card or register), serial number of initial documents registration from the beginning of the year.

Original registration details and file names must be unique. **It is not allowed to send multiple items with different content but the same file names and original numbers.**

Example: the registration number of the initial document is 30.02-05/1367 (30 is the digital index of the organization department, 02 is the position index of the person signing the document, 05 is number of the case according to the nomenclature, 1367 is the serial number of initial documents registration in the general department from the beginning of the business year).

Sending documents

Sending office documents outward the company is performed in this order: - documents (originals) sent by the director and his deputies, with electronic copy of document (if the document is sent by e-mail) or without it (if the document is sent by usual mail) are transferred to the general department (office, secretary) where the registration including the card, registry, and file entering is performed; - a copy of the registration number of the general department with a sign of permission for sending; - the documents that are signed by the head of the department may be sent outward the organization only if office memorandum containing a permission for sending over the signature of the director or his deputies in accordance with their competence and subordination.

When sending documents the department which prepared them transmits these documents to the general department (office) in 3 copies: the original is sent to the addressee, the second copy (with the executors' visas) remains in the general department and the third copy is transmitted to the appropriate organization department.

When sending documents via e-mail the nodes codes of the e-mail and the addressees' mailboxes are required.

The general department (office, secretary) accepts urgent correspondence to the bodies of state authority till 4:00 pm. After this time urgent correspondence is delivered by the department which prepared the document. In case of need urgent documents may be transmitted via fax followed by the original sending.

The executor is responsible for the accuracy of the correspondent's address that is not in the list of the company's regular correspondents.

Single documents (claims, complaints, etc.) are sent via postal service mail with drawing up the post office receipt and the acknowledgement.

The procedure for internal office documents

The internal office documents include: office memorandums, information and reports for the governing body, letters, measures for solving industrial and office problems arising between the departments of the organization.

It is prohibited to use the letterheads forms of the organization letters for internal mail.

Organization of the registration, transfer and passing on purpose, controlling the execution of office documents of the internal character relies on the persons responsible for keeping records directly in organization departments.

Procedure for appeals processing

Records management for letters, offers, appeals, and complaints from citizens in the organization is performed separately from the office correspondence.

All offers, appeals and complaints received by the organization are registered by the general department (office, secretary) on the day they arrive in a separate register and on the cards. Envelopes marked "Private" are passed sealed.

Accounting for personal reception of citizens is performed in the registers by officials (secretaries) in the organization reception offices.

Written offers, appeals, and complaints made at personal receptions are also under the registration in the general department (office, secretary).

In the general department (office, secretary) letters are considered and distributed according to this order: - appeals on matters not related to business of the organization, after their registration within not more than 5 days are forwarded to the appropriate organization or the official with the mandatory notification (using the copy) of the applicant; - letters from citizens, except for anonymous, after their registration are transferred to the company's governing body or to the organization department which competence includes issues raised in the letters.

Letters from citizens without specifying the names of the applicant, information about his place of residence, work or study, and those which do not contain offers, appeals or complaints do not undergo the registration and when approved by the organization director or the records management department director (general department, office) are issued "For the case. "

It is prohibited to send complaints from citizens to officials whose actions are appealed.

For each letter from citizens the general department (office, secretary) fulfills the registration card, and starts a separate case in which all the materials are compiled: the letter original or its copy, given responses, messages about forwarding and so on.

The letter registration index consists of the applicant's name initial letter, the case number according to the nomenclature, the serial number from the beginning of the year, and the index of the department which considers this letter. Repeated offers, appeals, and complaints are recorded in the new card. In the field of the previous registration and control card the index of the first appeal is indicated. In the upper field on the first sheet of the letter and in the card the mark " Recurrent " is made, after this it is added to the previous correspondence.

After being under the director's consideration the appeal from the citizen returns to the general department (office, secretary), where the appropriate changes in the registration and control card are made, and it is transferred for execution to the organization department.

All appeals are considered and solved in time no later than one month after receipt by the organization, and those that do not require further examination and verification - immediately.

If a special examination is needed for the appeal or complaint the time for considering documents can be extended with the applicant notification. Thus the general term of solving the raised in the appeal problems may not exceed 45 days.

The decision to extend the term of the document is made by the director, and in his absence the associate director who performs his duties on the basis of oral or written request of the executor not later than 3 days before the first deadline. The mark about extending the term is put to the registration card. The appeal is considered satisfied only if the necessary measures are taken. Letters which are given the previous responses are still under control.

Offers, appeals, and complaints of citizens after their solving together with all the documents for their consideration are sent back to the persons responsible for the work with appeals in the general department for the central forming of the case.

The procedure for documents classified as "For Official Use Only"

The classification "For Official Use Only" is given to the documents (in some cases to their projects as well), publications and other data carriers, containing information of limited distribution by the organization departments.

Attributing of documents and other information to the category of classified information is in accordance with the current for the organization list of documents publication of which is restricted.

The need for putting on records and other data carriers the stamp "For Official Use Only" is defined under list, instructions on the records management, - by the performer and the person signing the document; in the publication – by the author (compiler) and the leader who signed the release for publication.

The above mentioned stamp and the issue number is tabulated in the upper right corner of the first page of the document, on the cover, and the title of publication, as well as on the first sheet of the cover letter to such documents.

Heads of the organization and its departments if necessary have the right to remove the stamp from documents prepared by this institution or its department if the information contained in these documents do not correspond to the list or became obsolete.

The organization of the classified information records management is performed in accordance with the instructions for working with documents of limited usage.

Responsibility for ensuring proper record keeping, storage and use of classified documents lies in the departments directors.

The officials who work with classified documents must be briefed by general department officials (office, classified department) against receipt as to the corresponding instructions. The list of officials responsible for working with documents labeled "For Official Use Only" is approved by the order of the organization director.

The officials (performers) who are admitted to work with documents are prohibited to disclose in oral or written forms to anyone the information contained in these documents.

In case of changeover of the employee who is responsible for the classification, an act of acceptance and transfer of documents is made. It should be approved by the department director or the organization director depending on the submission and competence.

Incoming, outgoing, and internal documents classified as "For Official Use Only": - are registered with other unclassified under mark on the registration card, hereby the access to the classified documents and cards is limited and permitted only to those performers to whom the document is addressed. Drafts and versions of a document are not registered and are to be deleted. Accounting of the copied documents is performed by the number of copies; - **it is prohibited to send the classified documents texts and files to any addressees by means of facsimile, computer or modem communication.**

Other officials, media representatives may become familiar with classified documents or get such information with the written permission of the organization director and his deputies; classified documents may be transferred to the organization departments and other officials that are not included in the resolution with the organization department director's permission and the note about it in the accounting forms;

Classified cases of permanent and long-term storage (more than 10 years) are periodically reviewed for possible removal of the mark. Deleting of classified documents, files and issues is performed after the end of the keeping time, and can be recorded as a separate act or is included in the general act.

For loss of documents and other violations that resulted in the disclosure of information "For Official Use Only", culprits bear the disciplinary and civil responsibility under the legislation.

The monitoring of procedure for classified documents abidance is entrusted to the general department (office, classified department, secretary) and persons responsible for working with the relevant documents in the organization departments.

The classified documents, files, and issues check is provided annually by the responsible officials of the mentioned in this paragraph organization services.

22.3. Organizational documents

Statute

Statute is the code of rules, regulations which control basic rules of the organization and institutions work of certain branches of economy according to current legislation.

These are legal acts which determine the structure, functions, rules, legal status, activity purpose and basic principles of a company, institution, organization, cooperative, small business, common company, sport unity, political parties. These are laws for execution and existence. Statutes of economical organizations assign membership, board, order of its election and so on.

After being affirmed by the higher organization, statutes must be registered in bodies of executive power according to the location. Some institutions must register them in the Ministry of Finance, in the bodies of Tax Inspectorate, and State Committee of Statistics according to the location. After that the new organization can start its activity. For state institutions the registration is obligatory in ministries and agencies.

There are individual and typical statutes. Typical statutes are created for a number of similar, same institutions and organizations with similar activity directions and structure. Certain companies have individual statutes.

Regulations

Regulations are the legal act that determines the order of foundation, rights, duties and working arrangements of a company, organization, institution, firms, their organization units, and their subordinate companies.

According to the contents there are following types of regulations: about companies, organizations, institutions, their organization units noting the order of their foundation, structure, functions, financial duties, responsibilities, competence, duties and organization management; that regulate the unity of organization, labor and other relations on one matter; about the organization and making arrangements – cultural and sporting, competitions, showings etc. The structure and contents of such regulations are determined by the company, firm, institution that organizes an event.

Regulations draft is signed by the head of the organization unit. It must be affirmed by the senior executive whom the organization unit subordinates (director, deputy director on the activity direction).

Typical regulations on the company are affirmed by the administrative document of the higher authority (ministry, agency, and department). Regulations come into force since the day of its affirmation (or date mentioned in the administrative document which affirmed regulations).

Generally regulations text is divided into sections each of that can have subdivisions, paragraphs, subparagraphs that are numerated with Arabic numerals. Depending on the questions determined by the document it is visaed by correspondent officials.

Instructions

Instructions are the legal act which contains directions dealing with organizational, financial, scientific and technical, technological, judicial and other sides of organization activity, its units, branches and officials.

Instructions are made on general forms or on blank papers and have following requisites: document form code (if the job instructions are recorded in the State classifier of managerial activity); higher authority organization name (only for lower statutes); organization name, organization unit name (if the job instructions of the organization unit worker are made); title of the document type (INSTRUCTIONS or JOB INSTRUCTIONS), date, registration index, place of making, agreement stamp, text headline, text, signature, copy affirmation stamp, visa, certification mark, mark as for electronic copy availability, seal, mark as for reviewing.

Instructions come into force since the moment of its affirmation by the organization chief (deputy director).

Job instructions constitute a separate group.

Job instructions are composed by the organization unit chief or personnel office worker determining workers activity.

Job instructions are organizational and legal document that determines functions, duties, rights and responsibilities of a worker during the activity on a certain position. They are worked out for the certain position provided by the establishment plan.

Job instructions text is divided on such divisions: general regulations, functions, job duties, rights, responsibilities, interrelations (job relations); qualification demands.

Rules

Rules are official document of an organization character in which directives, norms or demands that define general action order, behavior of officials are mentioned.

According to the form and contents rules are similar to instructions which constituent they sometimes are. Rules are drawn up on general or special forms.

Rules requisites: document type name (rules); date; index; place of issuing; affirmation stamp; text headline (may be combined with document type name); text (may consist divisions, subdivisions, paragraphs); signature; agreement stamp (if needed); visa (if needed); executors mark (if needed); organization name, organization unit name, higher organization name (if needed); seal.

22.4. Administrative documents

Order

Order is an administrative document that is issued by the organization chief and concerns organizational and personnel problems in the company.

There are orders of personnel (staff) and general (organizational) questions.

Appointments, resignations, workers reshuffles, business trips, holidays, chastisement, awarding a bonus are formed by **personnel orders**.

In the headline of such an order the following is mentioned: "Concerns Personnel".

Administrative part is divided into paragraphs. Every order paragraph begins with a verb in imperative mood (to appoint, to transfer, to dismiss, to announce) that is written with the capital letters. In the end of every paragraph the grounds for it are stated. The word *grounds* is written with capital letters or with a capital letter with margin without a paragraph (with zero tabulator position), after it the colon is to be put. The following may serve as the grounds: other organization letters, worker's application or letter of explanation, report, office memorandum of an organization unit chief, certificate etc.

There are certain demands concerning text of an order:

- the last name of a person is typed with capital letters, name and middle name – with ordinary font. It is a must to write full names, without shortenings or abbreviations;
- in orders concerning employment the following is to be mentioned: position, organization unit, and the date of employing a worker; type of employment: (temporary, permanent); special working conditions (with material liability, with reduced working day, with probation period); payment of labor type, terms;
- in orders concerning transferring for other job type and reasons of transfer are stated (if needed the reference for a document is made additionally);
- in orders concerning giving a holiday, holiday type (primary, surplus, for prolonged meritorious service, family circumstances), general quantity of calendar days, date of leaving and returning, term of holiday are to be stated;
- in orders concerning employees dismissal (except mentioned above information) the date of dismissal and reasons are to be stated.

The order comes into force from the time of its signing. Personnel department chief must get the mentioned above people acquainted with the order (concerning dismissal, discharge or reprimand). They sign on the original order (on the reverse side of order original) or on the copy that is kept in the personnel department.

In big companies the unified order forms concerning personnel are used. Order forms with depicted coat of arms are used for state organizations.

Order draft concerning employment of a worker whom the rate of payment is defined is visaed by the chiefs of correspondent organization units confirming the vacant position and payment according to personnel arrangements.

After the director's signing the order (directions), the employee is brought to his notice against receipt (if necessary).

Organizational orders are issued when affirming long-term, annual and other plans, when arranging, reorganizing or elimination of organization units, organizations, when creating commissions, carrying out a check, inventorying, sending to business trips outside Ukraine, regulations and instructions coming into force, holding events etc.

Organizational orders (concerning main activity of an organization) consist of two parts: ascertaining and administrative. In ascertaining part of an order the reference to a document of a higher or controlling organization, fact, occurrence or event that became the reasons of making an order are stated.

In orders of basic activity the word *ORDER* must be used. It is written with capital letters with a margin without a paragraph (with zero tabulator position) and is separated from the ascertaining and administrative parts by double line spacing. The colon is put after it.

The administrative part is numbered or divided into sections (paragraphs, subparagraphs). Position, last name, name, middle name, activities that are to be done, term of completing are stated in each of them. The last paragraph in the order defines whether the official or organization chief takes everything under control. The orders concerning the basic activity are visaed by the responsible officials noted in the order text.

Direction

Direction is an act of management of an official, state body, organization in terms of their competence and has the obligatory legal effect concerning individuals, citizens (employees) and organization subordinates, organization units and individuals whom the direction is addressed to.

Directions are by-laws and are divided into: -general directions - long-term; and individual directions – concern definite narrow questions.

Directions are issued by the President of Ukraine, Cabinet of Ministers (on the grounds and for execution of laws, decisions of the President of Ukraine, the Verkhovna Rada and Presidium), Rada of National Deputies executive committees, and also chiefs of companies (organizations, institutions), their deputies and chiefs of organization units to decide efficient questions. As a rule directions that are issued in organizations have limited term of validity and concern some narrow circle of organization units or officials (employees).

The text of directions is written as it is in the order text concerning general activity questions or instructions. The words *OBLIGE*, *PERMIT*, *PROVIDE* etc. are used only in the ascertaining part. Very often directions contain enclosures and visas of responsible officials in the activity direction.

An extract from the directions can be made, on a model order extract concerning general questions of basic activity. For state institutions forms with depicted coat of arms is used.

22.5. Background documents

Letter

Official letters are the main means of information exchange between enterprises, organizations, and individuals.

There are different types of official letters: informational; advertising; letters of invitation; covering; advising letter; letters of confirmation; letters of reminder; warranties; initiative; written responses; letters of request, complaint letters, claimants and others.

Text of official letter should be concise, coherent, convincing, specific and correct, understandable. It is also allowed in official letters to consider several issues. One letter may contain many issues when they are interconnected. Text consists of three logically related parts: the introductory, basic and final (conclusions). The introductory part deals with facts, events, circumstances which caused the letter writing, and refer to documents, and dates of legal normative, regulatory materials.

It is recommended to begin the text of an official letter from the main part, and to state the evidence and grounds below.

Official letters on issues that were discussed previously may consist of the main part only.

If a letter of response has a reference requisite to the index and date of the initial document, it should not be repeated in the text of document.

An official letter is drawn up on the official letter form (angular placement of the main requisites is preferred) or on a clean sheet of paper and with some space left for a print of angular or longitudinal stamp of the sender.

Requisites of the official letter are: coat of arms; for government agencies; the name of the highest organization; the name of the organization that is the author of the letter; information about the organization (sender) - postal and telegraphic address, telephone number, fax number, e-mail, bank account - if necessary; date - is put on the day of signing; - index - is put on the day of signing; - references to the index and date of the initial document - for written response; - security classification of a document - if necessary; - addressee; - resolution; - the text title - if necessary; - control mark; - text; - application mark - if necessary; - signature; - approval mark; - visas - if necessary; - seal - if necessary; - executor's name and his telephone number - executor's mark; - mark on the execution of the document and its sending to the case; - a mark of a document in electronic form; - mark of the arrival.

If the official letter is sent outward Ukraine the form must be bilingual.

Information letters are official letters, where a sender informs an addressee of any facts, events or activities.

Advertising letters are a form of information letters. They contain a detailed description of goods or services, are sent to specific addressees, and encourage them to use the offered product or service. Mailing address, phone numbers, current accounts, driving directions are noted in the text. Letters of invitation are service letters, which offer an addressee to participate in some activities. Letters of invitation are addressed to specific individuals, companies, institutions or organizations. Cover letters are official letters, in which the addressee is informed of sending documents attached to the letter. The text volume of such letters is small.

Warranty letters are official letter which guarantee the fulfillment of payment for services or goods, providing of work, research, providing job, housing, etc. Warranty letters are signed by the director and chief accountant of the company, and obligatory certified with seal.

Certificate

Certificate is a document certifying the facts of biography or occupation of a person or organization and is provided at their request to another organization. According to content certificates are divided into personal - concerning individuals, and official – concerning the organization.

It is allowed to issue certificates on the forms of the organization; on special forms approved by regulatory laws, and on clean sheets of paper with corner stamp of the organization.

Requisites of a certificate: title of a document; the name of the organization issuing the certificate; date of issue; index; the initial number and date of the written request for a certificate; surname, name of the person to whom a certificate is issued; text; purpose - a place of the certificate filing; the signatures of officials; the stamp.

Protocol

Protocol is a document containing the official record of the discussions and decisions taken at meetings and conferences of the collegial bodies.

Protocol is kept during the meeting of the collegial body. If the meeting is steno graphed or recorded on magnetic tape, the protocol is made after the records transcription. The protocol conducted by a technical secretary or a person chosen at the meeting.

Protocols may be provided by hand laced in a special register or using office equipment.

Protocols are issued on clean sheets of paper or on general or special forms of the company.

Protocol requisites: - title of a document; - company name; - name of the organization department - if necessary; - date of the meeting of the collegial body; - index – numbering is kept within a calendar year or school year; - the place of compiling or issue; - approval mark - if needed; - the title of the text; - the text, stamp - if necessary.

The text of the protocol is divided into two parts: introductory and main. The names and initials of the chairman, secretary, attendants, the agenda are noted in the introductory part. In the main part – the flowing of the collegial body meeting is recorded.

The words "Chairman", "Secretary" are printed in the field without a paragraph (from the zero position of the tab) with a capital letter. For example:

Chairman – V. Borovik - Head of Trade Union Committee;

Secretary – L. Akimenko - Specialist of General Department.

In the protocol of the permanent collegial body meeting firstly the present permanent members are named - alphabetically, and then – the guests - with a record of their positions. Protocols of meetings and conferences with many participants present the quantitative complement is indicated, and a list of names is added to the protocol with a relevant record, for example:

Appendix: the list of present of a single copy on two sheets.

In protocols of meetings, conferences or congresses when for making decisions the quorum is required, the quantity of those who ought to be present, and those who was present or absent.

In the agenda the issues submitted to the collegial body and the names of speakers are recorded. Each issue is numbered. The agenda may be attached to the protocol.

The bulk of the protocol text is divided into sections corresponding to the agenda items. In each section there are subsections: "LISTENED" («СЛУХАЈИ»), "SPEAKERS" («ВИСТУПАЈИ»), "RESOLVED" («УХВАЈИЈИ»). These words are printed in capital letters without a paragraph and separated by two intervals. They are followed by a colon.

The word "LISTENED" is printed in one line with the number of agenda item. Names and initials of the speakers are noted in the mid-line in the agenda and with a paragraph (after the surname with the initials a hyphen is put) in the text of the protocol.

At the end of each section the vote is recorded (resolution, decision) according to the agenda. Decisions are divided into paragraphs and subparagraphs which are numbered in Arabic numerals.

Act

Act is a document that certifies a fact and is drawn up in the presence of witnesses or on the basis of inspection, verification, auditing. It is possible to draw up an act by one specially authorized person (auditor, inspector).

Acts are made as the results of audit, by acceptance and hanging over of rights, by new products and samples tests, novelty examination of innovations, taking objects to the use, sending documents for deleting, and so on. Acts are approved by higher organizations or by the senior manager. The text of the act contains the conclusions of the fixed facts and suggestions. The acts specify the documents that define the powers of those who made it.

Number of act copies is determined by the regulations or according to practical needs.

The authorized persons, who disagree with the content of the act, state their comments below the signatures of the persons who signed it or on a separate sheet of paper, and make a relevant note.

If conclusions and offers in the act are stated in administrative form with instructions of terms of the ordered actions accomplishment the act is signed by the head who confirms that he is acquainted with the content of the act.

For some kinds of acts (acts of the state trial board, acts about sending and deleting of documentary materials etc.) the special form is confirmed by normative documents.

The act can be a basis for the issuing of corresponding administrative documents by the organization administration.

Having drawn up the statement, the commission should acquaint the persons mentioned in the act with its content on receipt. Before the text - under heading in the text a basis is mentioned which can be the order of the organization head, the letter of the supervising organization etc.

The act text consists of two parts: introduction and recital.

If the act is constituted by the commission instead of "are present" it is printed: «the chairman of the commission», then - "committee-men", their positions, surnames and the initials in alphabetic order are noted and numbered in the Arabian figures as required.

In the recital the purposes, tasks, an essence, character of the performed by the commission work are stated; basic documents, established facts, events are mentioned; the conclusions and offers concerning the revealed facts are made. The act is constituted not less than in triplicate: the

first copy goes to the higher organization, the second - to the head of the organization, the third – is filed in the case.

Acts are arranged on general, template forms or on blank sheets of paper.

Act requisites: the name of a kind of the document; the organization name; the name of organization department; date; an index; a drawing up or issue place; an approval mark in case of need; heading to the text; the grounds; the text; a mark about availability of the appendix - if necessary; the signature, the stamp.

Notes

Notes can be official, report and explanatory.

The memorandum report is the official document addressed to the head of home or superior organization (the head of organization department) in which the author informs on the situation, events and the facts which took place, about performed (unperformed) work, gives conclusions and offers. The purpose of the initiative report is to induce the head to accepting concrete decisions. The report memorandum text is divided into two parts: in the first - recital (descriptive) - the facts, events are mentioned, a situation is described, and in the second - offers, requests are stated.

The heading precedes the report memorandum text if it is of great volume. Notes are allowed to be arranged on general forms or blank sheets of paper.

Report memorandum requisites:

- the organization name;
- the superior organization name
- if necessary;
- the name of organization department;
- a document name
- report memorandum;
- signing date; an index;
- a drawing up or issue place;
- the addressee;
- heading to the text
- if necessary;
- the text;
- a mark about availability of the appendix
- if necessary;
- the signature;
- the approval mark;
- the resolution.

The explanatory note is an official document in which the content of the basic document (the plan, the report, the project etc.), the reasons of events, the facts, guilt of one responsible official, department, a group of persons are explained.

According to the content explanatory notes are divided into two groups: the notes accompanying the basic document, which explain sense of its separate positions (are arranged on general or special forms of the organization by typewritten method). The requisites set is the same, as in the report memorandum; notes on the subject of some occasions, situations, guilt and behavior of separate workers, etc. The text of such explanatory notes should contain proofs. They are arranged on a blank sheet of paper by hand. They can have appendices (inquiries, letters etc.).

Memorandum is a general name for the official documents addressed to heads of the organization or organization departments. Memorandum requisites are the same, as for the record

memorandum. The memorandum can be recorded and explanatory at the same time. The questions which are explained in the memorandum can be quite different.

Telegram

The telegram is a specific kind of the document which is transferred with the help of telephone and cable connections for the fast informing of the addressee about certain event. By means of the telegram it's possible to report about postponing of any event or the fact, about certain consequences, about events in life of an individual or a business of the legal entity. The text in the telegram should be as exact, laconic, and short as possible.

In telegram punctuation marks (commas, points, colons, dash, question and exclamation marks, prepositions, an exception - a particle "not") and shortenings are not used. The telegram text is written by capital letters.

In the telegram it is necessary to specify the addressee and the. The telegram should contain date, the information about the person, who has constituted the telegram, the name of a kind of the document, the text, the signature etc. Office telegrams are arranged on the letter form, are signed by the head of the organization and assured by the stamp and registered as a letter.

Telephone message

The telephone message is the official document representing the operative message, transmitted via phone.

Such communication is used, when it is necessary to notify urgently the head or the certain person, collective about sessions, meetings, business meetings, changes in the planned actions, events, etc.

Telephone messages are constituted by the administrative assistant or other responsible person on the instructions of the director. Telephone messages can be entering, proceeding and internal. Internal are transferred by means of the selector simultaneously to several organization departments. For this purpose sometimes in a special period of time is determined.

The telephone message text should be laconic, accurate, short (to 50 words), containing facts, dates, time and a venue of events; questions which will be discussed. If in the text there are words which are badly perceived on hearing it is necessary to transfer each letter by naming words.

The head or the responsible official of the organization should check up and sign the telephone message constituted and arranged by the secretary.

If the telephone message is transferred to several addressees the list with phone numbers is made.

Telephone message requisites:

- the name of a kind of the document;
- the telephone message;
- the addressee;
- the sender;
- signing or reception date;
- time, an index - entering and reference number;
- the signature;
- a position (if necessary), a surname and phone number of the person who has transferred the telephone message;
- a surname (a position - if necessary) and phone number of the person who have accepted the telephone message;
- date, time and a transfer place.

Having received the telephone message, the secretary should brief the head and workers to whom it is addressed with its content according to the resolution of the head on receipt.

Target telephone messages are arranged on general, sample or special forms or on r blank sheets of paper in a single copy.

Entering telephone messages are registered in special registers.

E-mail

The correspondence received by e-mail is considered urgent and should be transferred to the head or to the destination after registration in corresponding register.

It is allowed to send documents via e-mail without use the organization form, but following requisites are necessarily specified: the author's organization name, the addressee, date, an index, the text, the signature. In the documents sent by e-mail, it is allowed not to specify the personal signature of the person who has signed the document. If necessary, if the document is very important, it is scanned together with the signature of the head or the responsible person and sent by e-mail.

22.6. Documents concerning the conclusion, change and termination of the agreement

Agreement

The agreement is means of legal regulation of property and corresponding non-property relations.

The agreement can be concluded between physical, legal persons and between a physical and a legal persons. The agreement is a document which is concluded between two and more persons. The contract is the agreement directed on an establishment, change or the termination of civil rights and duties.

The agreement content constitutes a set of its conditions on determination of the rights and duties of the parties according to the current legislation.

Contracts can be unilateral, bilateral and multilateral.

The agreement is obligatory for execution. The agreement comes into force from the moment of its conclusion.

Under the civil code there are following kinds of contracts: the purchase and sale contract, deliveries, contractings (grain delivery), exchanges, hiring (rent), leasing, the contract for labour and materials, accomplishment of research and construction, technological, search work; transportations, storage, insurance, privatizations, the agreement on joint activity. The separate group includes contracts of bank activity: the credit agreement, the agreement of credit and accounting servicing, the agreement on the depositary contribution.

The purchase and sale contract. One party (SELLER) commits himself to transfer or transfers property in hand to other party (BUYER), and other party commits himself to accept or accepts property and pays for it certain sum of money. According to the current legislation a subject of purchase and sale agreement can be: the goods, property rights, the requirement right if the requirement has no property character, securities etc. Contracts are concluded in writing and drawing up of their separate kinds demands the notarial certificate and the state registration (a purchase contract of a uniform property complex, an apartment house or apartment, the ground area).

The delivery agreement. One party (SUPPLIER) commits to transfer to the possession the goods to other party (BUYER) within the established time limit for its use in an entrepreneurial activity, in other purposes which are not connected with personal use.

The agreement on agricultural goods contracting. The manufacturer of agricultural goods commits himself to produce goods specified by the agreement and to transfer them to the possession of the supplier (CONTRACTOR). According to the contract conditions the supplier commits himself to pay for goods at the prices established in the agreement.

The exchange agreement. According to the exchange agreement each of the parties commits themselves to transfer to other party one product in exchange for another. Each party is the seller and the buyer. The agreement can establish an exchange of the goods for services.

The gift contract. One party (DONATOR) commits himself to transfer gratuitously property or a gift to the possession of other party. Securities, real estate property, things, money, the future property rights can be gifted.

The rent agreement. One party (THE RECEIVER OF THE RENT) transfers to the possession of the other party (PAYER) property, and the payer commits himself to pay periodically a rent as a certain sum of money or in other form during a definite period or termlessly.

The agreement of hiring (rent). One party (LESSOR) commits himself to transfer to other party (TENANT) property for a payment during a definite period.

The loan agreement. One party (CREDITOR) commits himself to transfer or transfers to other party property for use during certain time free of charge. These contracts can be concluded both orally and in writing. For juridical persons the written form is obligatory. The conclusion of some contracts demands the notarial certificate.

The hiring work contract. One party (CONTRACTOR) commits himself to perform certain work on the instructions of another party at his peril, and other party - to accept and pay the performed work.

For accomplishment of some kinds of works the contractor (subcontractor) should obtain the permission.

The agreement on services granting. One party (CONTRACTOR) on the instructions of other side (CUSTOMER) commits himself to render service, and other party commits himself to pay for this service to the contractor under the contract terms.

The carriage contract. One party (CARRIER) commits himself to deliver the cargo of other party (SENDER) entrusted to him, the second party (PASSENGER), and other party - to pay the payment established by the agreement.

The insurance agreement. One party (INSURER) in case of insured event approach commits himself to pay to other party (INSURER) the certain insurance sum under the agreement. The insurer commits himself to pay insurance installments.

The credit agreement. One party (FINANCIAL INSTITUTION, BANK) commits himself to grant the loan (money funds) under the agreement, and the second party (BORROWER) commits himself to return money with interest.

The agreement of credit and accounting servicing. One party (BANK) commits himself to accept and enlist money funds into the account of the client, to carry out orders of the client about them, to perform other operations under the agreement. Other party (CLIENT) - pays for accomplishment of bank operations under the agreement.

The agreement on joint activity. All contract parties commits themselves to act jointly without formation of the legal entity for achievement of a certain overall aim according to the current legislation.

The agreement on economic activities is an official document in which the agreement between the parties about an establishment of the business relations connected with economic activities is fixed, and which regulates these relations. Such contracts between enterprises belong to

the main means of inter-industrial communications under new conditions of managing and market relations development.

Contracts on economic activities are arranged on general, sample forms or on blank sheets of paper. If the agreement is constituted on several pages (sheets) they are numbered, and the quantity of pages is mentioned in the document text.

Agreement on economic activities requisites:

- the organization name;
- document name
- the agreement;
- date of signing of the agreement;
- an index;
- a drawing up or issue place;
- heading to the text - what the agreement about;
- the text; a mark about availability of the appendix - if necessary;
- the signature;
- the stamp.

The next items should be specified in contracts: - names of the parties between which the agreement is concluded; - positions, surnames, names, patronymics of persons to sign the agreement; - the reference to the documents certifying powers of persons signing the agreement; - sections: "Subject of agreement", «Obligations of the parties", "the Calculations order »,« Responsibility of the parties »,« Contract cancelation order »,« Force majeure »,« Total sum of the agreement»,« Duration of the agreement »,« Other conditions » etc.). After the agreement text the point «legal addresses and signatures of the parties » is made in which names of the organizations, positions - for juridical persons, surnames, names, patronymics of the parties, the location, bank accounts are specified.

In case of contractual delinquency by one of the parties, the other party has the right to address to the first one with the claim. The next information is specified in the claim: a full name and post requisites of the applicant of the claim and the person to which the claim is shown; - claim date, - an index; - circumstances on basis of which the claim is shown ; - the proofs confirming these circumstances; - requirements of the applicant referring to regulations; - the sum of the claim and its calculation - if necessary; - payment requisites of the applicant of the claim; - the list of the documents applied on the claim, the signature, a mark about the contractor as required.

The claim is constituted on the letter form of the organization or on the special claim form; the head of the organization signs the claim. The claim goes to the addressee as a custom-made or the insured letter. The claim is subject to consideration in a month from the date of its reception.

The applicant is notified on results of the claim consideration in writing. The answer to the claim is signed by the head of the organization or the person acting for him.

If the claim term of consideration is infringed or left without the answer the court at the decision of economic dispute levies into the income of the state from the guilty person the penalty in the size established by the current legislation.

According to the Economic code of Ukraine the operation warranty period is estimated from the date of item input in operation, but not later than one year from the date of item reception by the buyer if other is not provided by the agreement, standards, specifications. The warranty period of the validity of the goods and storage is estimated from the date of goods production.

The claims following from delivery of the goods of inadequate quality can be made within 6 months from the date of finding the defects by the buyer.

Discrepancy reports

According to the Economic code of Ukraine when any objections concerning separate conditions of the agreement occur, the party which has received the contract draught, constitutes the discrepancy report, and this fact is recorded in the agreement; in twenty-day term sends to the second party two copies of the discrepancy report together with the signed agreement. The party which has received the discrepancy report, considers it 20 days, regulates disagreements or sends it to the court. If the party which has received the discrepancy report, does not send the unregulated disagreements to the court, the offers of the second are considered to be accepted.

Economic and contractual documents

Such documents can be used in activity of the state and private enterprises, the organizations having the status of the legal entity.

Economic activities are based on treaty obligations and provide within the conditions of these contracts ways to solve certain disputes connected either with performance time, with delivery of goods, or with infringement of settlement relations etc.

Financial realization - settlement operations are not conducted without their confirmation by corresponding documents.

Waybill

The waybill is the registration document granting the right of cargoes and material assets reception and sending.

Waybill requisites: - the name of a kind of the document - at the top of the page in the middle with capital letters: the WAYBILL; - date; - an index; - a basis on which a waybill is issued; - to whom it is given out (the name of the organization or a surname, a name, a patronymic of a physical person); from whom (the name of the organization or an organization stamp, it's address, phone number, the current account) - the text in the form of the table (the name of subjects; a grade, the size; a unit of measure; nomenclature number, quantity; cost; the cost sum); - signatures of the organization head and accountant; - who issued (the position, the signature, decoding) - who received (the position, the signature, decoding) - the stamp of the organization.

Expense report

The expense timesheet is a document in which notification of work performance for a certain time period is drawn up digitally on the special form.

For household expenses and business trips sums of money are paid out in cash in advance according to the established procedure (on receipt). Sums of money on receipt are paid out subject to that the official has no debts on earlier given advances.

Paying out of money on receipt is arranged by the cash voucher on the basis of the director's order, the act, the application, the record memorandum by the department head. The reporter not later than in three days after use of the specified sum (returning from a business trip) on the basis of the documents confirming spent means (tickets, checks, receipts, accounts), constitutes the expense report which is checked by the accountant who does the accounting entries reflecting the sums of expenses. The organization director confirms the report. When sums of money enter the accountancy a deposit form is arranged and the reporter gets the receipt.

The expense report is arranged on the special form confirmed by the corresponding regulation, the identification codes of the enterprise and the reporter are specified.

Questions for self-check:

1. How is it possible to legalize the document and what requisites are used?

2. Draw up the order on the transfer of the 1st category specialist from the personnel department into the procurement and logistics department of the state enterprise.
3. Prepare the order on a one month campaign of safe public transport use.
4. What type of documents according to the classification does the agreement belong to? Name its requisites.
5. Write the warranty letter about the examination carrying out.
6. Make an act of documents transfer (choose the enterprise).
7. Write a protocol of expert commission meeting.
8. What are the requirements for drawing up of printing documents?
9. The procedure for classified documents « For Official Use Only».
10. How is the registration of outgoing documents performed?
11. Basic activities of a secretary at the enterprise.
12. List the peculiarities of telegrams writing.
13. Prepare a discrepancy report to the agreement.
14. What is the difference between preparation of business trips in Ukraine and outside it?
15. The peculiarities of account and financial documents registration.

CHAPTER 23. BUSINESS ECONOMY

Objective: forming of special knowledge and practical skills system in the field of the analysis and planning of indicators of an entrepreneurial activity taking into account factors of the external and internal functional environment.

Subject: the economic mechanism of firm functioning, forming and usage of its potential resource aimed to optimization of economic activity results.

Content modules: Firm as the basic subject of an entrepreneurial activity. The order of a firm creation. Concept and basic characteristics of an external environment of firm functioning. Organizational structure of a firm and management principles. Firm resources: structure and classification. An estimation of fixed assets. Methods of calculation of amortized deduction. The simple and expanded reproduction of fixed assets. Efficiency of fixed assets usage. Fictitious assets of firms. Firm circulating assets, their functional role in the course of production. Methods of circulating assets regulation. Indicators of circulation of a working capital and its elements. Determination of requirements for material resources to provide the normal firm production activities. Planning and optimization of the sizes of stocks, kinds of stocks. Firm personnel. Indicators of efficient use of a manpower. Forms and systems of paying and work stimulations. Economic costs and results. The factors influencing structure and production costs. Kinds of costs for production grouping. Methods of a production price calculation (works, services). A ratio of profit, costs and sales volume. "A break-even" point. Structure and an order of financial result forming. Model of forming and distribution of a firm profit. Profitability of a firm and methods of its determination. The taxation of the enterprises. Taxation system elements. Types of tax, their classification. A calculation and tax payment order. Development of economic firm behavior strategy and decision making for the purpose of economic results of activity optimization.

23.1. General characteristics of business activity

The economic activity performed for achievement of economic and social results and for the purpose of profit earning, is called business.

Business is independent, initiative, regular, economic activity on own risk, performed by subjects of managing (businessmen) for the purpose of achievement of economic and social results and profit earning.

Business is performed on the basis of following principles: 1) businessman's free choice of kinds of an entrepreneurial activity, 2) independent forming of the activity program by the businessman, a choice of suppliers and consumers of produced goods, mobilization of material, financial and other kinds of the resources, which use isn't limited by the legislation, price fixation on goods and services, 3) free hiring of workers; 4) commercial calculation and own commercial risk; 5) the free order profit which remains for the businessman after tax payment, collections and other payments provided by the legislation; 6) independent realization of foreign trade activities by the businessman.

If physical or juridical activity of a person's isn't connected with profit earning it can't be considered as the enterprise. The main thing that distinguishes the businessman among other agents of socially useful activities is possibility and compulsion of certain profit reception.

Noncommercial managing is the independent regular economic activity performed by the subjects of managing, aimed to achievement of economic, social and other results without the profit earning purpose.

Also, accomplishment of any task when the contractor hadn't at least one personal factor and right to freedom of such activity isn't considered as business. Personal business factors are personal property, physical, mental abilities, knowledge and experience, position in societies, the rights, etc.

Concept "entrepreneurship" does not always mean "business" which is more capacious with concept and provides activity of any kind (even swindles), bringing income or personal advantage.

Proceeding from it, businessman should possess the certain features connected with his corresponding functions. He should:

- 1) to see the person as the main source of overall performance of the enterprise increase, new ideas;
- 2) to promote forming of leaders and innovators, to stimulate in them reasonable risk degree;
- 3) to form economic thinking, constantly perform search of new possibilities, to be initiative;
- 4) to be able to unite people for aim achievement; to inspire employees, to pay considerable attention to people's aspiration, to their spiritual qualities;
- 5) to achieve the point in which values of firm were prior for workers, to be able to convince;
- 6) to be professionally prepared for search of optimal variants for enterprise development, increase of its efficiency;
- 7) to be constantly guided on efficiency and quality, to perform regular planning;
- 8) to aspire to all-round knowledge, to accept reasonable risk;
- 9) to implement forms and systems of salary payment which help to save resources (raw materials, electric power, fuel, reduction of manual and unskilled labor);
- 10) to give certain autonomy to divisions, to aspire to simplicity of management; skillfully combine an autonomy with rigid centralism, etc.;
- 11) to be constantly guided by consumers' needs, improvement of goods quality and the services given according to the current legislation;
- 12) to pay taxes;
- 13) not to pollute environment;
- 14) to combine optimal individual, collective and public concerns;
- 15) to be responsible for the actions;
- 16) to act purposefully, vigorously, believe in success of business, to be persevering and flexible, to develop creative and managerial abilities etc.

Business is the sphere of economy according to which affirms the economic freedom, energy, the initiative, will of people and their interests is implemented.

According to the UNO data, in world economic system small and medium scale enterprises hires almost half of labor world's population, the volume of their production in the separate countries reaches 1/3-2/3 national products. So, for example, in the USA small business produces more than 51 % of gross national product, and it creates more than 76 % of all new work places, about half from them – firms with staff less than 20 persons.

Great value of small business is in provision of society social, economic and political stability, its key role is to form effective structure of economy, peculiarities and advantages of economic activities realization cause specificity of economic and social functions which are carried out by small business.

Small business is key source for:

- 1) creation of additional work places, resolution of employment problems, poverty and equalization of property with social differentiation of an overwhelming part of the population;

- 2) middle class forming – social strata which really provide stable development of economy and society as a whole;
- 3) elimination of disproportions on goods markets by fast reaction on changes in market, saturation of a consumer market by goods and services;
- 4) development of a regional and local economy and markets with oriented to national interests, forming an essential part of incomes to local budgets;
- 5) maintenance of the effective competitive environment, restriction of monopolism of large enterprises;
- 6) activation of innovative processes, operative introduction of achievements of scientific and technical progress;

Thus, small business is integral, economically and socially significant sector of modern market economy. Level of its development is an important indicator of social, economic and political stability, ability of a society to resist internal and external shocks.

23.2. Firm as the main subject of business activity

The firm is organizationally separated economically independent link of national economy production sphere, specializing on goods production, accomplishment of works and services rendering.

The firm main task is to satisfy the market with goods or services in the purpose of profit earning.

Activity of firms in Ukraine is regulated by the current legislation of Ukraine, and also by their *charter and the collective agreement*.

The firm charter is a set of the obligatory rules regulating its activity and mutual relations with others entities of managing.

The collective agreement is an agreement between labor collective on behalf of labor union and administration or the owner, who annually reviews and regulates their production, economic and labor relations.

Firms have such features: technical and production unity; organizational and social unity; financial and economic independence.

For fulfilling effective economic activities it's important to determine aims of firm creation and functioning, taking into the account factors of the external and internal environment of firm. The purposes, tasks, its structure, technologies and the personnel are the basic variables of the firm internal environment.

Aim of a firm (its mission) – is profit earning. The task is considered as a concrete kind of work or its part which should be executed in certain way during the certain period of time. All tasks can be classified as: work with the information, the personnel and various subjects. There is a close interrelation between tasks and the technologies used by firm.

Technology is any means with the help of which elements are involved in production will be transformed to results of work. Technology includes machines, mechanisms, tools, skills and knowledge.

Firm structure which characterizes content of firm divisions and system of communications, subordination and interaction between them is a very important part of firm inner surrounding. All firms, except the smallest ones, share on horizontal specialized functional areas and vertical levels of management. The firm structure is a logic ratio of functional zones and the levels of management used for goal achievement of the organization. The organizational structure of the enterprise is

influenced by following factors: production scale; complexity of goods; character of engineering procedure.

As the firm is an open system and depends on an exchange of the resources and results of cooperation with an external world, it is necessary to consider the influence on firm its external environment. The external environment of firm serves as the consumer of its activity results; a source of firm resources; the channel of outflow of its resources (taxes, payments, etc.); the information environment (i.e. forms a legal field of firm activity, restriction, prohibitions, motivational actions, competitive conditions, etc.). All factors of an external environment are interconnected and cooperate among themselves. The number and variety of factors of external influence to which the organization is to react, determines complexity of its external environment. Meaning of external factors for each separately taken firm varies also changes from one division to another. Factors which immediately influence the organization, apply to direct action environment, others - to environment of indirect influence.

Major factors of the direct action environment are suppliers of materials, a manpower and the capital, laws and state regulation bodies, consumers and competitors. State of the economy, scientific and technical progress, political conditions, the international events and welfare factors apply to indirect action environment.

For survival and achievement of aims, the enterprise should be able to react effectively and to adjust to changes of an external environment.

Firms are classified according to following features: 1) the purpose and character of activity (commercial, noncommercial) 2) form of ownership (private, collective, municipal, state), 3) legal status and the managing form (individual, cooperative, rent, economic societies, etc.), 4) a capital national belonging (national, foreign, mixed); 5) sector and functional type of activity (industrial, agricultural, building, transport, trading, leasing, bank, etc.); 6) size according number of workers (small, medium, big).

There are also other classifications signs of the enterprises, but only major are listed above.

Enterprise structures have the right to unite on a voluntary basis their innovative, production, marketing, supply and sales, financial and social activity. Such consolidations can be: associations, corporations, concerns, consortia, trusts, syndicates, cartels, holdings, financial groups.

In Ukraine the most widespread forms of firms' consolidation are:

- Association – the elementary form of contractual consolidation of the enterprises for the purpose of constant coordination of economic activities, association has no right to interfere in production and commercial and financial activity of its members;
- Corporation – contractual consolidation of economic entities on the basis of integration and production interests with delegation of its particular powers;
- Consortium – temporal authorized consolidation of industrial and banking capital for realization of certain enterprise idea, investment project;
- Concern – the consolidation of enterprise structures characterized by an organic combination of the property and the control, often with usage of a production diversification principle;
- Holding – the organizational form of consolidation of investment resources; formations, it isn't directly perform production and economic activities, but directs the financial resources on acquisition of controlling block of shares of other enterprises.

Each of these forms has the advantages and disadvantages and can be used depending on internal and an enterprise external environment conditions.

23.3. *Enterprise ideas, its sources and search methods*

Creation of your own firm – is extremely difficult and risky task, which demands the big strength of will, expenditure of energy, purposefulness etc. Person, who has decided to be involved into entrepreneurial activity, should compare these expenditure and results, though on a stage of searching the business idea it's very difficultly to make.

The decisions devote yourself to business includes following moments:

- 1) desire to create business to become owner, proprietor;
- 2) acknowledgement of necessity to work on a limit of the resources (physical, intellectual, organizing, etc.);
- 3) hope to have personal independence, unwillingness to work for anyone;
- 4) refusal of the previous employment, career and readiness to change the way of life;
- 5) conviction that to have your business - is prestigious and useful for society;
- 6) possibility of own business creation, accurate comprehension of resources reception ways for its creation;
- 7) confidence in possibility of such business creation;
- 8) knowledge of a certain kind of an entrepreneurial activity, ways of creation of the enterprise in chosen sphere or industry;
- 9) ability to choose the optimum organizational and organization-legal form of existence of the subject;
- 10) understanding of possible risks and ability to cope with them, neutralize possible negative situations;
- 11) ability to organize accounting and tax accounting;
- 12) knowledge of the external factors influencing an entrepreneurial activity: current legislation, forms and means of economic policy of the state, a competition between domestic and foreign commodity producers.

The first step of the beginning of an entrepreneurial activity is search for enterprise idea.

Enterprise idea – is a concrete complete knowledge of expediency and possibility to be engaged in a certain kind of an entrepreneurial activity, and also accurate comprehension of the purpose of such activity, ways and means of its achievement.

The idea of new goods or service creation displays enterprise idea. New goods - goods which essentially differs from available on a commodity market or have serious qualitative improvements in comparison with the goods-analogs on consumer qualities, design, forms etc.

Sources for idea for an entrepreneurial activity (including ideas for new goods or service) can be:

- 1) knowledge received at the secondary school and at the high school during studying of economic disciplines;
- 2) experience with parents, relatives and acquaintances;
- 3) information received from mass media (radio, television, newspapers, magazines etc.);
- 4) opinion of consumers towards reasonability of having the new goods, receiving new services;
- 5) ideas of scientists who make theoretical and applied researches;
- 6) visits to trade fairs and advanced experience exhibitions;
- 7) wishes of trade workers, system of sale, persons involved into advertising;
- 8) ideas of potential competitors, publications in professional editions, including those about patents and licenses owners;

- 9) knowledge of the basic methods of state support of an entrepreneurial activity which the future businessman would like to use.

Before taking a decision, the potential businessman should adhere to such principles:

- 1) the minimum volumes of financial resources for enterprise creation;
- 2) to receive as soon as possible the expected result;
- 3) insignificant risks during creation and functioning of the enterprise;
- 4) favorable material conditions;
- 5) the elementary methods of improvement of goods sales terms, realization of the maximum quantity of the goods or service;
- 6) receiving the support from the state, first of all during the first years of the enterprise existence;
- 7) the maximum conformity of entrepreneurial activity realization to businessman's abilities the and realization of its purposes.

The science and practice have developed many methods of creative (heuristic) search of enterprise idea. The main are:

Methods of individual creative search.

Analogy method stipulates the usage of the already known decisions, "prompted", for example, by technical, economic or literature, or the nature.

Inversion method - the specific method stipulates such solutions to the problem:

- to turn "upside-down";
- to "turn inside-out";
- to change places.

The idealization method is based on representation initiation about the ideal problem resolution that can push to the brand-new idea.

Methods of collective creative search.

The method of brain storm includes creative cooperation of certain group of specialists for the sake of the problem resolution with the help, for example, discussion of certain group of questions. Thus it is necessary to obey following rules:

- not to permit critics and negative comments, concerning statements of opponents,
- not to criticize new idea no matter how absurd it would be from the point of view of its practical realization in modern conditions.

The method of ideas conference differs from the method of brain storm in the point, that it presupposes the benevolent criticism in the form of a remark or the comment. It is considered that such criticism can raise value of the nominated ideas.

The method of a collective notebook unites individual promotions of idea with its collective estimation. Thus each participant receives a notebook in which the essence of a solved problem is stated. During certain time (usual month) each participant of discussion writes down in a notebook his own ideas of a certain problem solving. Then notebooks receive the head of group of participants for generalization of the accumulated information. Only after ending of this procedure creative discussion will be organized and the relevant decision on new enterprise ideas is started.

If idea is found, process of a type of activity and enterprise designing selection begins.

23.4. State registration of subjects of an entrepreneurial activity

One of the main conditions of business entities activity is their state registration. *The state registration* of juridical persons and physical persons-businessmen is a certification of the fact of legal entity creation or termination, certification of the acquisition or deprivation fact of the

businessman status by the physical person, and also fulfillment of other registration actions by entering of proper records into the Uniform state register.

The Uniform state register is the automated system of information collection, accumulating, protection, accounting and granting on juridical persons and physical persons-businessmen.

The certificate of the state registration – is the document of the established sample, certificating the fact of making a record in the Uniform state register about the state registration of the legal entity or the physical person-businessman.

The state registration of juridical persons and physical persons-businessmen **is made** by the state registrar only in executive committee of city council of regional importance or in regional state administration of other settlements according to the legal entity location or in a residence of the physical person-businessman.

Location of the legal entity – is a place of the secular executive office of the legal entity, and in case of its absence – a place of the secular of another body or the person, authorized to act on behalf of the legal entity without the letter of attorney, on the certain address which is mentioned by founders (participants) in the articles of association and on which communication with the juridical person is performed. A **physical person residence** – a house, flat, another premises, suitable for residing at it (a hostel, hotel, etc.) in corresponding settlement in which the physical person lives constantly, mainly or temporarily, at the right address on which communication with the physical person-businessman is performed.

For carrying out the state registration of the legal entity the founder (founders) or the person authorized by them should submit personally to the state registrar (to send the letter by special delivery with the investment inventory) following documents:

- 1) filled registration card for carrying out of the state registration of the legal entity;
- 2) a copy of the founders' decision or the body authorized by them about the legal entity creation in the cases provided by the legislation;
- 3) two copies of founding documents;
- 4) the decision of the Ukrainian antimonopoly committee on the consent for creation, reorganization (merge, acquisition) subjects of managing in the cases provided by the current legislation;
- 5) the document (documents) confirming payment by the founder (founders) of the contribution to the statutory fund in the size, established by the legislation;
- 6) the document certificating entering of an admission fee for carrying out of the state registration of the legal entity.

Founding documents of the managing entity are the decisions about its formation or the articles of association, and in the cases stipulated by the legislation, the charter (position) of the subject of managing. In articles of association founders undertake to create the enterprise, determine an order of joint activity after its being formatted, conditions of the property transfer to it, an order of profit distribution and losses, managements of activity of the enterprise and participation in it founders, order of withdrawal and admission of new founders, other activity conditions of the subject of managing which are provided by the law, and also an order of its reorganization and liquidation according to the law. The enterprise charter should contain data about its name and location, purposes and aims of activity, the size and an order of formation of authorized and other funds, the profit distribution and losses order, about controllers and control, their competence, about conditions of reorganization and liquidation of enterprise entity, and also other data connected with features of the enterprise organizational form. The charter can contain other data which are not contradicting the legislation.

Citizens, who intend to perform an entrepreneurial activity without legal entity formation, submit a registration card of the established sample which in the same time is application for the state registration, a copy of the inquiry about identification number assignment of the citizen-tax bearer and other obligatory payments and the document certifying entering of a payment for the state registration. In case of personal application the passport is shown in addition personally to the state registrar.

The form of the state registration certificate of the legal entity includes:

- 1) name of the legal entity;
- 2) an identification code from the Uniform state register of the enterprises and the organizations of Ukraine;
- 3) a location of the legal entity;
- 4) a location of the state registration;
- 5) date of the state registration adoption;
- 6) surname and the initials of the state registrar.

The form of the state registration certificate of the physical person-businessman includes:

- 1) a surname, a name and a patronymic of the physical person-businessman;
- 2) identification number of the physical person-payer of taxes and other obligatory payments;
- 3) a residence of the physical person-businessman;
- 4) date of the state registration adoption;
- 5) a location of the state registration;
- 6) a surname and the initials of the state registrar.

The state registration certificate is signed by the state registrar and certified by his seal.

The seals and enterprise stamps should content the code on which this entity is included to the state register of accounting entities, or an identification code of the citizen-businessman.

The state registration certificate of the entity of managing and copy of the document confirming its capture on accounting in bodies of national tax service *are the basis for opening of accounts in organizations of banks.*

Activity of the unregistered enterprises which are liable to the state registration is forbidden. The incomes received by such entity, are levied in the government budget of Ukraine.

23.5. State regulation of an entrepreneurial activity

Necessity of state regulation of an entrepreneurial activity is caused mainly by a certain complex of economic defects and the conflicts which arise in the conditions of in-coordinate poorly supervised and regulated activity on the scale of private businessmen society within the limits of the free competition mechanism. Such shortages concern economic crises, occurrence of monopolies and monopolistically tendencies in economy, non-uniform and disproportional development of productive forces, country regions, absence of social security for people, etc.

State regulation of the entrepreneurial activity is a complex of forms, methods and means of the state influence for activity on the enterprises and the organizations for the purpose of normal conditions of their functioning and development creation, easing of negative tendencies after such an activity.

The basic methods of such adjustment are legal (are embodied by adopting of appropriate laws), administrative (are based on force of the government, containing prohibition measures, the permission and compulsion and are realized by means of decrees, orders), economic (are based on taxes usage, financially-credit levers, price regulation and tariffs, other forms of economic policy) and social and psychological.

If concerning practice of the economically developed countries, the basic tool of state influence on the entrepreneurial activity is the tax policy. Entrepreneurial activity fiscal regulation is performed by granting by the state of preferential investment credits, the tax concessions at realization of capital investments in development of new techniques and technology, research and development works, at development of backward regions, and also for the purpose of stimulation of small business, etc.

Antimonopoly activity – is a complex of the events directed on restriction of monopolies activity, and also on creation of the corresponding legislation of highly monopolized enterprises liquidation, their prosperity, establishment of big taxes on monopoly profits etc.

The entrepreneurial activity in Ukraine and other countries of the world exists in various organizational and legal forms. The success of forthcoming business depends on businessman competitiveness and appropriated profit size.

The optimum choice of organizational and legal forms of business in Ukraine is to begin with studying of base legal acts which regulate it and also of many legislative and regulation acts which make changes in the main laws.

It is possible to refer to the basic legal acts which regulate an entrepreneurial activity: the Tax code of Ukraine, the Economic code of Ukraine, the Law of Ukraine "On the property", the Law of Ukraine "On licensing of certain kinds of economic activities", the Law of Ukraine "On patenting of some kinds of an entrepreneurial activity", etc.

23.6. Licensing of certain types of business operations

Licensing is an issue, re-issuance and cancellation of the licenses, issue of the license duplicates, management of license affairs and license registers, checking operation of the adherence of the license provisions by licensees, and an issue of the arrangements about the elimination of license provisions' violation and also arrangements about the elimination of the law infringement in the field of licensing.

Only such the types of the free enterprise, which immediately have a great influence on people's health, environment and nation safety, are subjected to the (obey) licensing of the free enterprise.

The list of the economic operation' types, which is subjected to (obeys) the compulsory licensing is in the ninth section of the Ukrainian Law "About the licensing of some economic operation's types.

The license – is the document of the state operated example (model), which certifies the licensee's right to the management of the economic operation, indicated in this example in terms of quoted period for the fulfillment of the conditions of the license provisions.

The licensee – is the economic agent (transactor), which has received the license to some type of the economic operation, which is subjected to the licensing.

License provisions – is the established comprehensive (exhaustive) list of organizational, qualification and other special requirements with subject to the demands' laws, which are obligatory for production in implementation of economic activities, which are subjected to the licensing. License provisions and control crisis are confirmed by the common authorized body concerning licensing and license authority.

The licensing authority – is an executive body established by the Cabinet of Ministers of Ukraine, or specially authorized executive body for the licensing of some types of economic operations (activities).The list of license authorities, where the business entities can get the

appropriate licenses approved by the Cabinet of Ministers of Ukraine from the 14th of November 2000, № 1698.

To get (obtain) a license for every kind of activity (activity category), the business entity submits to the license authority, license statement in the prescribed form. A copy of certificate of State registration of the business entity or copy of certificate about the Unified State Register of companies (enterprises) and Ukrainian organizations is notarized or by authority, which has issued the original document, is applied to the application about the issuance of the license.

License authority takes a decision about the license issuance or about the reject, when it is issued in time, no later than ten weekdays from the date of the application's incoming about the issuance of the license and documents, which are applied to the application, unless otherwise provided for the prevailing law. *The reasons for taking decisions about the denial in the license issuance are:*

- 1) incorrect data (doubtful information) in the documents, which is given by the applicant for getting a license;
- 2) the non-conformity (failure) of the applicant according to the filed (submitted) documents of the license provisions, which are identified for the type of economic activity, pointed (indicted) in the license application.

In case of denunciation (rejection) of the license issuance on the basis of the inaccurate data in the documents, which were filed by the applicant about issuance license, the business entity can submit the license authority a new document about the license issuance no earlier than 3 months from the date of decision-making about the denunciation issuing the license. The decision about the denunciation in the license issuance can be appealed judicially.

License fee – is the once-only payment that deposited by the business entity for getting a license. Amount of a license fee and schedule date (license term) are established by the Cabinet of Ministers of Ukraine from November 29, 2000 № 1755 “About the license term for induction of some types of the economic activities, size and the enrollment of fee for its issuance”.

The license term for induction of some types the economic activities (except types of the economic activities mentioned below) is 5 years, and the fee collected from its issuance is of \$20 tax exemption of the citizens' income, if the license body is the central body of executive power, or of 15 tax exemption of the income nationals, if the license authority is the local authority.

Cancellation of the license – is the deprivation of the licensee by the license body of the right for conducting some type of the business (economic activity). The reasons for the cancellation of the license are:

- 1) the licensee's application about the cancellation of the license;
- 2) the statement of the repeat violations of the license provisions by the licensee;
- 3) the decision about cancellation of the business entity's national registration;
- 4) a notarized copy about the death certificate of the individual person - business entity;
- 5) a statement of inaccurate information in the documents filed by the business entity to obtain(get) a license;
- 6) the act about the establishment of the fact of the license transfer or its copy for another legal or natural person for carrying out the economic activities;
- 7) the act about the establishment of the fact of failure in time (by the target, in time-frame) the report about the changes of data in the documents attached to the license application;
- 8) act about the non-fulfillment of the order about the violations' deprivation of the license provisions;

- 9) the licensee's inability to guarantee license provisions established for a specific type of economic activity;
- 10) act about to denial of the licensee in the inspection by the license body or specially by the authorized body concerning licensing.

The License authority makes decision about the cancellation of licenses during ten working days from the date of establishment of the reasons for license cancellation which is given (sent) to the licensee with the indicating of the grounds of cancellation within three working days from the date of its adoption. The decision about cancellation of a license shall take an effect in ten days after its adoption.

23.7. Patenting of some types of the business activity

Law of Ukraine "About the patenting of certain types of business" defined the procedure of patenting of trading activity in cash, as well as using other forms of payments and credit cards, activity in foreign exchange instruments trading, for rendering the personal services, etc., that are made by the business entity.

Trade patent – is a state certificate, which certifies the right of the business entity or its organization department to engage in certain types of business, which are stated by law. Trade patent doesn't assure the right of the business entity to intellectual property.

Trade patent is issued (given out) for a fee to the business entities by the state tax authorities (bodies) according to the location of these entities or their organization departments (separate). Trade patent is issued to the business entities, which are engaged in trade activity or provide personal services (except distributive trade network) – according to the point location of sale of goods or the personal services' place, and to the business entities, which are engaged in trade through the distributive trade network according to the registration office of these entities.

Trade patent contains the following information:

- the number of the trade patent;
- the name of the trade patent's owner;
- the type of the business activity;
- the name of the personal services' or services' in the gambling business types;
- the place of the citizen's registration as a business entity or location of the business entity - legal entity (the organization (separate) department' location of this entity);
- for transport vehicles - the statement "traveling trade", the duration (time-frame) of trade patent; the location of the state tax authority which issued the trade patent;
- the mark of the state tax authority about revenue of the payment for the trade patent which is issued by it.

The form of trade patent and the order of its filling are set by the central taxation body of Ukraine.

The application for the trade patent shall contain the following information:

- the name of the business entity;
- a written extract from the founding documents according to the legal address of the business entity, and in cases if the patent is acquired for the organization department (structural (separate) unit) – a certificate of the authority (institution), which approved the organization department (structural location (separate) units), indicating this location;
- the type of business, which requires the trade patent;
- the name of the document about full or partial payment of the trade patent's value.

The application of the law "About patenting of certain types of business activity" is not spread to the trade activities and activities of personal services of:

- 1) enterprises (companies) and organizations of Committee, military trade, chemist's (pharmacies) which are publicly owned, and trade production state enterprises (companies) of the labor supply in the villages, towns and cities of regional subordination;
- 2) business entity – legal persons who: make trade activity from the trays (stalls), shopboards and pay market fee for a place for trading with packing within the markets of all forms of property; pay tax for the trade; sell the grown crop production, cattle, rabbits, nutria, chickens in the personal subsidiary plot, in the garden, suburban areas of crop production; pay a fixed tax according to law about legal entity's income tax;
- 3) the business entities created by the public organizations of invalids (infirm), who have tax benefits in accordance with applicable law and trade exclusively the produced domestically food products and products made by companies (enterprises) "The Ukrainian Society of the Blinds" and "Ukrainian Society of the Deaf".

In case of violation of the Law of Ukraine "About the patenting of certain types of business" business entities, which are engaged in trade activity, trade operations with the cash currency values, the operation of services in the gambling business and personal services, have such responsibility for: the failure for timely payment or installment of regular payments. In this case a fine in the amount of the tax debt is charged (including the amount of penal sanctions if any of the rate of 120% annual interest rate of the National Bank of Ukraine for the date of such tax or duty for the day of its (part) maturity, depending on which of the variables of such rates are higher for each calendar day of the late payment; the violation of the trade patent the fine is paid in the amount of trade patent for a calendar month; the making operations, which are patentable without receipts of the relevant trade patents or with the violation of the trade patent's order of the way of using; pay the double penalty rate of the trade patent for the full term of the business entity's operations with the pointed violation; the making operations from the sale of goods that require an issuance of promotional trade patent without its receipts or with the violation of the receipt and usage of promotional trade patent; pay of fine of five times of the promotional trade patent; for making the trade activities without the purchase (acquisition) of the short-term (unfunded) patent; pay the double cost fine of short-term (unfunded) patent for the full term of the business entities' with the pointed violation.

The activities' preferential business entities stop their operations before the day of the payments of fine, as well as trade patent or the execution of the promotional trade patent. Fines are payable by the offender within five days according to the applicable law. Officials and citizens – business entities in case of violation of the requirements of the legislation are brought to the administrative responsibility.

23.8. Contractual relationships in the company (enterprise)

Contractual agreement – is the agreement of two or more parties, which is aimed at the establishment, modification or termination of the civil rights and obligations (duties).

Economic agreement – is the property deal between two or more entities, whose content is encumbrance in economic activity: in manufacturing and realization of products, work performance, service, etc.

Economic agreement – is fixed (locked) in a legal document on the basis of the agreement's obligation document of the participants of the trading, which are aimed at the service of their business.

According to Clause 4, section 179 of the active Commercial (economic) Code of Ukraine during the stowage of the commercial agreements the parties can determine the content of the contractual agreement on the basis of: 1) the free expression of the will (act and deed) when the parties have right to agree using its own discretion any conditions of the agreement, which are not contrary the laws; 2) the approximate model of the agreement, which is recommended by the managerial body to the business entities for using them during the stowage of agreements by them when the parties have right by mutual agreement (through amicable settlement) to modify certain conditions which are set aside (provided) in the modal agreement, or to add its content, 3) of the model agreement approved by the Cabinet of Ministers of Ukraine, or in cases stipulated by law, or by other bodies of governmental authorities when the parties can not derogate from the content of the agreement, but have the right to concretize its conditions, 4)adhesion contract, proposed by one party to other possible entities (subjects) when these subjects in case of the accession to the contract have no right to insist on changing of its content.

The conclusion of the contract requires the consent (agreement) of the parties of all essential conditions, i.e. conditions, without which there is no law act. The contract is considered to be constituted if there is the agreement from the all essential conditions between the parties in the due form. In case of failure of the essential conditions by one of the partners other party has a right to recover damages. The commercial contract is considered to be concluded if there is an agreement between the parties according to all essential conditions.

Essential conditions – is the conditions, in absence of which the agreement can not be considered to be constituted. Thus, the essential conditions are the conditions, which are recognized by law or necessary for this type of contracts and also the conditions according to which, upon demand one of the party should be agreed (Clause 2, section 180).

According to paragraph 3, section 180 active Commercial Code of Ukraine during the stowage of the economic agreement the parties must in any case to finalize the subject, the price and contractual time.

Conditions about the subject in the commercial contract must specify the name (nomenclature, range) and number of products (works, services) and their quality requirements (Clause 4, section 180).

Price in the commercial contract is determined by the agreement of parties .The contract may provide supplemental payments to fixed price for the product (works, services) of high quality (fancy) or work in short notice (time) in comparison with the standard (paragraph 5, section 180). Price is an essential condition for an economic agreement. Price is a form of monetary determination value of products (works, services) that implement (realize) the entities. Price is stated in UAH in the contract. Prices can be determined in foreign currency by the agreement of the parties in the foreign economic agreements. Entities can use free prices, state fixed prices and regulated prices – limit prices or limit deviation from the state fixed prices in the economic activity.

The term of the economic contract is the time, during which there are economic obligations of the parties, which emerged on the basis of this contract. The conditions (provisions) of the concluded contract don't extend to the obligations, which parties have got before the economic contract's conclusion if the contract isn't provided otherwise. Expiry of the economic agreement does not relieve the parties from the liability (responsibility) for the violations that occurred during the contract.

As a rule, any contract includes: 1) preamble (introduction), 2) the bulk (with the selection of general and specific contract conditions), 3) the final part.

As an example the contract of sale can be observed for the illustration. This contract includes such components: 1) the object of the contract, 2) a quantity, 3) a quality of offered products for sale, 4) sale price of the product unit, 5) payment terms, 6) the term of delivery; 7) packing (list of requirements), 8) order of the reception of the goods, 9) fines (penal sanctions), 10) force majeure circulation; 11) arbitration; 12) other conditions of the contract.

According to the agreement of parties the accidental (additional) conditions can be determined in the contract. In case of one's party violation the other party has no right to reject from the goods and break the contract, but can only require discharge of duties and reimbursement of damages.

Additional conditions include: insurance, quality assurance, contract conditions involving workers, agents, carriers, determination of the standards of loading (unloading), and conditions of the transmission of technical documentation for products, storage brands, order of the payment of taxes, customs duties, various protective clauses, the date when the contract takes effect, the number of signed copies of the agreement (contract), the possibility and the procedure for introduction of the modifications to the agreement (contract), etc.

Penal sanctions are applied in the following amounts, if otherwise is provided by law: 1) a fine of twenty percent of the defective goods (works, services) is charged in case of violation of the conditions' obligations according to the quality (completeness) of goods (works, services); 2) default interest in the amount of 0,1 percent of goods (works, service) is charged for violation of the obligations' terms which allow delay for each day of delay, and additionally a fine in the amount of 7% of the pointed value is charged for delay for more than thirty days.

In case if the size of penal sanctions is not defined by law, the sanctions are applied in the size, which is statutory noticed.

23.9 Manufacturing planning

Planning – a definition of goals and objectives of the company (enterprise) for long term, the analysis of their resources' provision and methods of implementation (realization).

Plan – a system of interdependent united by a common purpose of tasks that ensure (provide) the realization of the goals of the productive operation.

Basic principles of planning: 1) **the principle of rationality** of the goals and objectives of the enterprise, 2) **systemic planning** (planning deals with all areas of the business (productive operation)), 3) **the principle of scientific content** (list of the perspectives of scientific-technical progress and application of the scientifically progressive standards of the using of all types of resources); 4) **the principle of continuity** (the parallel application (use) of the current and advanced planning), 5) the principle of the plan balance (indicates to the quantitative correspondence between related sections of the plan and plan number, between resource needs and their availability), 6) the principle of the defectiveness (plan acquires the force of law for all sub-heading of the company (enterprise) after its approval by the head of the company).

There are the following types according to the duration of the schedule date, of planning: 1) long-term planning usually involves a three- or five-year period and determines the general strategy of the enterprise (the options (variants) of the expansion of the measuring rods of the production operations, cost cutting are determined during the preparation of long-term plans, the changes are projected in the nomenclature of products or services and the policy is clarified in the functional areas), 2) medium-term planning (from 2 to 3 years) includes the possibilities of all divisions on the basis of their own estimate (the plan of marketing, production plan, financial plan, etc. has been developing); 3) the current planning is usually calculated for one year, half a year, quarter, month

and includes the production output, working schedule and wage schedule, planning of the material support, cost value, returns, rate of return, etc. 4) operational planning - a detailed development of the plans of the enterprise and its divisions (business units) (it combines: 1) operations and scheduling, which includes the detailed current plan of the enterprise and bringing tasks to each production authority, department, division, section, team, worker. At the same time plans and schedules are made for a month, decade, day shift, and sometimes hourly, 2) production control, which provides: continuous control according to the "production process" and prompt (operative) removal of failures at every workplace, the organization of the delivery to the place of raw materials, instruments, export of finished products (commodity), waste production, functional control, power delivery, the organization of quality control).

Business plan – a packaged planning document of the production operation, which provides the measures aimed at the realization of the business ideas for profit.

The business plan contains a packaged (comprehensive) grounding of strategy (program) development of all areas on the basis of current and advanced planning of such activity.

The business plan can outline the problems which are faced by the company (or entrepreneur) during realization (implementing) of its goals in the uncertain, competitive economic environment, and helps identify and provide the ways of solution.

The business plan is the basis of business proposal in bargaining with the future partners and potential investors. It defines some requirements for the design, form, content and structure. It must be represented in a form that allows the concerned person to get a clear idea about the subject matter of the case and the prospects (possibilities) of their participation in this case.

The structure and the content of business plan are not strictly regulated. Therefore, we can propose the following model of the business plan.

1. The title page of business plan.
2. Content (the "second" page of business plan).
3. Introduction.
4. Total characteristic of the production operation (business) and historical note (reference).
5. Description of business (business).
6. Characteristics of goods or services.
7. Plan production (business plan).
8. Marketing plan.
9. Organization plan.
10. Estimated risk and insurance.
11. Financial plan.
12. Judicial plan.
13. Terminological dictionary (appendix).
14. The accompanying documentation (appendix).

The main functions of the business plan, where their essence is fully observed are : 1) providing the comprehensive information to creditors and investors about the company, especially about its stability and effective strength, 2) motivation of the main purpose of business, 3) a brief description of business, including manufacturing process 4) product characteristic or services, their quality, 5) motivation of the development of the production forecast, 6) integrated market research, 7) determination of the viability of enterprises in conditions of internal and external competition; 8) motivation of the business effectiveness on the basis of the assessment of costs , prices and anticipatory profits that is the prerogative of the financial plan, 9) evaluation of

the professional level of management (entrepreneurs, managers, etc.), the effectiveness of their work.

Basic principles of the planning of business plan: 1) coherent orientation on the recipient (lender or investor), 2) thorough description of certain segment (niche) of the market, the exigency of consumers and their preferences during purchasing of the goods and services of this company, 3) qualitative and meaningful design (appearance, quality cover, clear drawings, photographs, calculations, etc.), 4) credibility in the realization of the main ideas, particularly in the efficiency of the enterprise (acquisition of income) and the timely credit redemption, etc.; so, the creditor first of all must be convinced in the performance of the credit agreement, and investors – in getting of the high rate of return.

23.10. Economic essence of the certain funds of the firm

Fixed capital stock (assets) forms the part (portion) of assets, which take part in many manufacturing cycles, carrying forward by installments its value at the cost of finished commodity (buildings, works, machinery, equipment, etc.).

Fixed capital assets (according to official definition, which was formed in Accounting Standard 7 "Fixed capital assets ") – are the tangible assets that the company keeps for usage in the process of production or supply of goods, services, renting to others or for administrative and sociocultural functions, the expected term of effective, the usage of which is more than one year (or operating cycle if it is longer than one year). The key components of fixed capital stock in general and main fixed capital assets in particular, are the capital funds, they constitute the material basis of production. Specifically, the stocks of fixed assets have all items except "capital costs for the land improvement, and belong to the «fixed assets ".

Capital funds – are the part of fixed capital assets, which save their real forms, and participate in many manufacturing cycles and carry their value forward the cost of finished commodity by installments moderately of the operation. According to the active legislation of Ukraine the fixed capital assets are divided into four groups: the first group - buildings, works, their structural components and driving gears, capital costs for the land improvement, the second group - vehicles, including trucks and passenger cars, furniture, office equipment, household electrical appliances and instruments; the third group – other fixed capital assets, which are not in the first, second and fourth groups, including agricultural machinery, cattle, plantations; the fourth group - electronic computers and other machinery for automatic processing of information (data), their software combining the features of reading or for printing of information, other information systems, telephones (including cellular), microphones and radio, whose value exceeds the cost of low-value goods (objects).

Depending on the nature of the fixed assets in the production process their productive and nonproductive asset are distinguished. The main productive assets operate in the sphere of material production, unproductive balance the household and cultural requirements of workers.

Record keeping and evaluation of fixed capital assets are made in non-monetary and value (monetary) forms.

Natural (non-monetary) estimation of capital assets is necessary for: 1) accounting and planning of individual asset groups (capital funds), 2) the calculation of production capacity, 3) development of the equipment balances and determination the extent of its usage and so on.

Money value of capital funds is necessary for solution such the problems: 1) formation of the exclusive basis of criteria of comparison of different forms of capital funds 2) determination of the total volume, dynamics and structure, 3) estimation of the cost rate that is transferred to the

cost of finished production (amortization assignment), 4) determination of the size change of capital funds in certain spheres and enterprises during some period.

Four kinds of money value of capital funds are used in the firm.

1. **Evaluation according to original (primary, actually) cost**, that is according to the actual expenses that the company suffered in connection with the creation of basic production funds (assets), their delivery and assembling, in the prices of the last year in which these costs were made. This type of evaluation (assessment) is used for processing operations of the amortization assignments.
2. **Evaluation (assessment) according to the replacement value**, the value of reprocessing of main capital funds (production assets) in modern conditions. Necessity of the assessment according to the replacement value is caused by the fact that due to the technological progress or inflation the same kinds of work assets (machines, stoves, etc.), are made at different times, have a varying money value. As a result, there is a need of periodic reevaluation of main funds.

As a rule, market prices and these or another elements of capital funds are used as a basis for the determination of the replacement cost, This type of evaluation takes into account the influence of three main groups of factors: 1) moral depreciation of capital funds (fixed assets), 2) scale the current monetary unit (e.g. due to inflation), 3) fluctuations of the market prices of assets (for example, due to feverish demand or customs policy which is applied by the state).

Replacement cost is used in the following situations: 1) during the purchase / sale of previously acquired capital funds (assets) 2) in assessing of the real value of capital funds (fixed assets), which is determined during the inventory check, it may be necessary while changing ownership, liquidation or determination of the value of collateral.

3. **Evaluation according to original and evaluation (assessment) according to the replacement value plus depreciation (according to its residual value)**, that is according to the existing value, which is not transferred into the finished products. Primeval (renewal) value of capital funds (fixed production assets) taking into the account depreciation is determined by the formulae:

$$V_{RES} = V_{I(R)} - \frac{V_{I(R)} \times N_R \times T}{100\%} \quad (23.1)$$

where $V_{I(R)}$ – is the initial or reinstatement value of capital funds (fixed assets);

N_R – is the rate depreciation for the renovation (full recovery) %;

T – is the notion of usage of fixed assets (till the determination of the residual value) years.

4. **The residual value** – the value of the realization of the object after the expiry of its useful exploitation. The residual value is determined by the formulae:

$$V_R = V_M - C_R \quad (23.2)$$

where V_R – is the residual value;

V_M – is the market price of the object;

C_R – costs are combined with removal of the object.

Physical wear is the loss of user value by capital funds. For example: loss of efficiency, loss of function, etc. Physical wear occurs both during the capital funds, and during their inaction (e.g. under the influence of corrosion).

Moral wear (depreciation) of capital funds reflects the decrease of their value regardless of their physical deterioration. There are moral deterioration of the first (I) and second (II) type.

The obsolescence of I kind occurs when basic assets with similar consumer properties (productivity, functions, and operational characteristics) appear in the market at a lower price. The obsolescence I kind is caused by work performance improvement in the industries producing basic assets, in particular, production of machines is made with smaller costs, and they become cheaper.

The obsolescence of II kind occurs when there are basic assets with higher consumer properties at the same price in the market. An obsolescence of other kind is caused by that release of more effective machines and the equipment at the same price begins (high performance, high quantity of functions carried out, smaller power consumption, etc.).

Physical obsolescence of basic assets is partially compensated by capital repair, and the total compensation (renovation) is performed by replacement of old elements of basic assets with the new ones. The obsolescence of basic assets can be compensated by modernization.

The monetary compensation of physical obsolescence of basic assets is performed by *depreciation*.

Depreciation is a gradual transferring of cost of the basic assets on produced goods for accumulating of means for their complete restoration (renovation). Money terms of the depreciation size are the depreciation charges corresponding to basic funds degree of depreciation.

The depreciation system plays a grate role in the economic mechanism, carrying out such functions: 1) forming of funds for a complete recovery of the basic funds running out after the term of their validity (provision of simple reproduction) 2) accumulating of means for the expanded reproduction, 3) creation of system according to financial plan specifications, necessary for economic proportions planning of basic funds and resource allocation of the equipment reproduction; 4) creation of self-supporting specifications system which is necessary for calculations of the cost value, profit and profitability; 5) creation of development fund of production, a science and techniques; stimulations for basic funds faster renovation.

Depreciation charges include a production price, reducing profit, i.e. a taxable part of a revenue before its acceptance Thus, the enterprises which successfully lead an economy, are interested in increase of depreciation rates. In this case the taxation of that part of financial receipts of the enterprise decreases and is spent on technical re-equipment of enterprise mastering.

Calculation of depreciation charges is made according to the current legislation separately for each group of basic funds.

Generalizing indicators of basic assets usage express ultimate effect of basic assets usage.

Capital productivity (product output at 1 UAH of basic assets) on the enterprise or industry is determined by the relation of commodity, total, implemented or a net production to mid-annual cost of the basic production assets. The capital productivity indicator settles payments under the formula:

$$C_P = \frac{Q}{C_M} \quad (23.3)$$

where Q – is the annual release of commodity, total, implemented or a net production, UAH;
C_M – is the mid-annual cost of basic assets, UAH

$$C_M = V_B + \frac{V_I \times T_{INP}}{12} - \frac{V_W \times (12 - T_W)}{12} \quad (23.4)$$

where V_B – is the book value of basic assets on the beginning of year, UAH;

V_I – is the cost (value) of the basic assets inputted in current year, UAH;

V_W – is the cost (value) of basic assets which were withdrawn during the year, UAH;

T_W, T_{INP} – is the quantity of months when the funds which were withdrawn and entered (inputted) were used.

The size, opposite to a capital productivity indicator, is called as **capital output ratio** and characterizes the size of the cores production funds (at cost) which is due to each issued monetary unit:

$$C_{OUT} = \frac{C_M}{Q} \quad (23.5)$$

Capital productivity indicators necessary for basic assets retrospective analysis are also applied only for intra-economic analytical calculations at the enterprise.

Capital-output ratio indicators are used for the perspective (anticipation) analysis and decision making for future, concerning effective directions of investment.

Partial indicators characterize level of use of basic assets depending on certain factors, for example, time, capacity (for a time unit) and renovation degrees.

The coefficient of extensive loading (K_E) of the equipment characterizes the level of its usage in time and is determined for every group of the same equipment under the formula:

$$K_E = \frac{T_A}{T_P} \quad (23.6)$$

where T_A – is the actual time worked out by the equipment, hours;

T_P – is the time of possible machine usage (regime, planned fund of time), hours.

Level of machines and equipment usage on efficiency or capacity is characterized by the coefficient of intensive use (K_I):

$$K_I = \frac{Q_{ACT}}{Q_{TECHN}} \quad (23.7)$$

where Q_{ACT} – is the actual product output during a time unit;

Q_{TECHN} – is the technically reasonable product output during a time unit.

Integrated utilization rate of machines and equipment on their capacity and in time K_{INT} determine as product of two above mentioned coefficients K_E and K_I :

$$K_{INT} = K_E \times K_I \quad (23.8)$$

Shift index characterizes the degree of production intensification

$$K_{SH} = \frac{A_1 + A_2 + A_3}{Q_T} \quad (23.9)$$

where A_1, A_2, A_3 – are the quantities of actually worked out machine shifts in I, II and III shifts;

Q_T – total quantity of machines and the equipment which exist at the enterprise or in shop.

Simple reproduction assumes capital reconstruction in invariable sizes, and expanded – in constantly growing scales.

Forms of simple reproduction – is the replacement of out-of-date means of labor for similar and capital repair. A monetary source of simple reproduction is depreciation charges.

Renovation coefficient of basic assets

$$C_{REN} = \frac{C_{INP}}{C_{END}} \quad (23.10)$$

where C_{INP} – cost of the inputted basic assets;

C_{END} – cost of basic assets in the end of the year.

Coefficient of leaving of basic funds

$$C_{LEAV} = \frac{C_{OUT}}{C_{BEG}} \quad (23.11)$$

where C_{OUT} – cost of the outputted basic assets;

C_{BEG} – cost of basic funds on the beginning of year.

The expanded reproduction of basic assets is performed by reconstruction, expansion and modernization functioning and buildings of the new enterprises and shops. All works connected with creation of basic assets, are called capital development.

23.11. Intangible assets

Intangible assets are any assets which have no material form, but there are exceptions: 1) cash assets (cash, money on accounts in banks and on-demand deposits) 2) equivalents of cash assets (short-term financial investments, 3) a debt receivable for the enterprise to certain date. Intangible assets have a number of characteristics which distinguish them from tangible assets: 1) availability of the great uncertainty concerning the future benefits which they can bring to the owner, 2) cost of intangible assets substantially depends on competition level, 3) intangible assets can be valuable only to one separate enterprise.

According to the current legislation an intangible asset is not monetary assets which has no material form, can be identified and saved by the enterprise for the purpose of use in a period more than one year (or one operational cycle if it exceeds one year) for production, trade, in the administrative purposes or grants in rent to other persons. Those from them which can be identified are considered as intangible assets only. The identified intangible assets are such intangible assets which can be acquired or sold separately from other assets of the enterprise. To the identified intangible assets patents concern, trade marks, author's rights, etc. To not-identified intangible assets related goodwill.

There are many various classifications of intangible assets, but more often they are classified according to six basic categories:

1. **The Intangible assets connected with the market.** The assets used at promotion of the goods and services. For example, trade marks, firm names, newspaper titles, domain names.

2. **The intangible assets connected with the customer.** Are formed as a result of interaction with partners. For example, the list of customers (clients), outstanding orders.

3. **The intangible assets connected with art.** Author's rights on literary, pieces of music, pictures, photos, video audiovisual materials.

4. **The intangible assets connected with the agreement (contract).** Represent cost of the rights proceeding from the contract. For example, the franchise when the company-owner of a well-known trade mark gives to other company the right to place this trade mark on the goods, but thus acquires the right of the control of quality and the second product characteristics of the company-franchiser), licenses, the building license, the right to broadcasting etc.

5. **The intangible assets connected with technical and applied sciences be means of innovation and technical progress.** For example, patented technologies and know-how.

6. **Goodwill.** It's called the most non-material of all intangible assets. Goodwill can be sold only together with the enterprise. All intangible assets which are difficult for identifying or estimating, belong to goodwill.

23.12. The concept of firm circulating assets. Methods of regulation and efficiency of firm circulating assets usage

Current capital of the enterprise (circulating assets) means of production that, unlike basic funds participate only in one production cycle at which completely transfer the cost on finished product cost. Thus, for one turnover, circulating assets pass three basic economic spheres: supply, production and sale.

The current capital consists of two parts – circulating capitals and working capital assets. The current capital structure is a quantitative ratio of separate elements in total amount of the circulating assets, expressed in percentage to a result sum.

Circulating assets form objects of the labor. They change their natural form, physical and chemical properties.

Circulating assets include: 1) objects of the labor (raw, direct materials and semifinished products, accessory materials, fuel, container, running spares, etc.) 2) means of labor with durability of no more than one year - usual it is invaluable and wearing things (for example, tools, economic stock, equipment, overalls).

Circulating assets circulate in sphere of production and in the process of goods production and are entirely consumed, hence, completely transfer the cost on the created product.

Circulation assets concern: 1) the finished product stored in warehouses of the enterprise; 2) the goods, shipped to the consumer, but which weren't paid by him, 3) money on accounts and cash. **Circulation assets** are connected with servicing of the goods circulation process. They don't participate in cost formation, and are its bearers. After the end of goods production cycle and its selling, cost of circulating assets is compensated in goods sales proceeds (works, services).

Task of circulating assets regulation is establishment of scientifically reasonable specifications, providing uninterrupted operation of production activities of the enterprises by means of the minimum quantity of circulating assets. Circulating assets specifications on separate elements and firm total sum develop independently.

Specification (limit) of circulating assets means confirmed on the enterprise minimum sum, but which is sufficient for continuous work of the enterprise circulating assets.

Separate specifications are made for following elements: 1) raw materials inventories, the basic and accessory materials, purchased semifinished products, 2) fuel and oils, 3) container; 4) running spares, 5) invaluable and wearing things; 6) work-in-progress; 7) deferred expenses; 8) finished product stocks.

The basic economic indicators are used at regulation of circulating assets are shown in Tab. 23.1.

Table 23.1

Regulation of circulating assets, determinations of requirement for material resources,
planning and optimization of the stock sizes

Rate name	Formula	Annotation
The specification (limit) of circulating assets in work-in-progress for a certain item (Lim_{cir})	$Lim_{cir} = \frac{C \cdot V \cdot D_C \cdot C_{INCR}}{360}$	where C – complete cost value of an item; V – annual release volume of items; D_C – duration of a production cycle; C_{INCR} – coefficient of costs increase for item production
Coefficient of costs increase	$C_{CI} = \frac{S_{LSC} + 0,5C_C}{S_{LSC} + C_C}$ $C_C = C - S_{LSC}$	where S_{LSC} – the sum of lump-sum costs in item cost values; C_C – the sum of current costs in item cost values; C – the item cost value
The finished product specification (S_{FP})	$S_{FP} = \frac{C_{CO} \cdot R_{CA}}{360}$	where C_{CO} – the commodity output cost value; R_{CA} – rate of circulating assets
The commodity output cost value (C_{CO})	$C_{CO} = \sum_{i=1}^m (C_i \cdot V_i)$	where m – quantity of kinds of goods issued at the enterprise; C_i , V_i – the cost value and volume of release of i-th kind of goods.
Rate of circulating assets (R_{CA})	$R_{CA} = R_{WAR} + R_{TRANSP}$	where R_{WAR} – rate of circulating assets stored in a warehouse, choice of completing and packagings of a products lot; R_{TRANSP} – rate of circulating assets for transportation to station of departure and loading of a products lot
Current stock material (S_{CM})	$S_{CM} = D \cdot P_{DEL}$	where D – daily requirement of the enterprise for a certain material; P_{DEL} – the period of f certain material delivery at the enterprise
Safety stock of a material which corresponds minimum stock (S_S)	$S_S = D \cdot P_{DELFAIL}$	where $P_{DELFAIL}$ – the period of delivery failure; D – daily requirement of the enterprise for a certain material
Maximum material stock (S_{MAX})	$S_{MAX} = S_{CM} + S_S$	where S_{CM} – current stock material ; S_S – safety stock of a material
Average material stock (S_{AV})	$S_{AV} = S_S + 0,5S_{CM}$	where S_S – safety stock of a material ; S_{CM} – current stock material

The major performance indicators of circulating assets usage are speed of their circulation (turnover coefficient) and duration of one cycle in days.

The coefficient of circulating assets circulation (C_{CIR}) shows quantity of the cycles, which this sum receives till the planned period. The given coefficient is determined under the formula:

$$C_{CIR} = \frac{V}{CA_{AVER}} \quad (23.12)$$

where V – volume of goods implemented in the planned period in current wholesale prices for a year (quarter), UAH;

CV_{AVER} – an average balance of circulating assets, that is monetary calculation of the circulating assets sum which are simultaneously exist at the enterprise in all six forms, UAH.

The circulation coefficient shows the sum of the goods sold on one UAH of circulating assets.

Duration of one cycle of circulating assets (D_{CIR}) is the average period of the cycle, shows during what period (for how many days) circulating assets make one cycle. Value of this indicator in days can be determined:

$$D_{CIR} = \frac{D}{C_{CIR}} \quad (23.13)$$

So that:

$$C_{CIR} = \frac{D}{D_{CIR}} \quad (23.14)$$

where D – quantity of days in the planned period.

The load factor of circulating assets in cycle, characterizes their sum having on one UAH of goods sold:

$$K_L = \frac{B_{AV}}{V} \quad (23.15)$$

where V – volume of goods implemented in the planned period in acting wholesale prices for a year (quarter), UAH;

B_{AV} – an average balance of circulating assets, that is monetary calculation of the sum of the circulating assets which are simultaneously at the enterprise in all six forms, UAH.

23.13 Concept and personnel classification

The firm personnel is a number of the permanent employees who have received necessary vocational training and (or) have practical experience and skills for work. Except permanent employees, other able-bodied persons can work at firm on the basis of the contract. All firm personnel is subdivided into the **industrial and production personnel (IPP)** and the **nonindustrial personnel (NIP)**.

IPP employees are occupied in the basic and auxiliary divisions of firm, in factory laboratories, research organizations, the works management device. To **NIP** the firms occupied in non-productive sphere belong.

Depending on functions, all firm **personnel is subdivided into** four categories: 1) workers, 2) specialists, 3) employees; 4) heads.

Workers, depending on the relation to process of goods creation are subdivided into the **main** (directly participating in process of goods production) and **auxiliary** (which have functions of the basic production servicing).

The workers performing preparation and registration of the documentation, economic servicing, accounting and the control are employees.

Workers who are engaged in technical, economic and other works are considered as **specialists**.

Heads are the workers occupying posts of heads of firm and its structural divisions.

If complete job difficulty allowance is known, then planned number of the working is determined:

$$N = \frac{L_{COMPL}}{F_V \cdot C_R} \quad (23.16)$$

where L_{COMPL} – is complete labor input of the production program of the planned period; F_V – the valid fund of time for one worker; C_R – coefficient of rates of time accomplishment.

Under condition of regulation of development existence system at the enterprise, number of workers can be calculated under the formula:

$$N = \frac{\sum_{i=1}^n (t_i \cdot m_i)}{F_V \cdot C_R} \quad (23.17)$$

where t_i – planned labor input of a production unit of i-kind in standard hours; m_i – quantity of units production of i-kind; n – quantity of goods kinds.

For determination of workers number, occupied with servicing of production (administrative personnel, auxiliary workers), calculation is led on the basis of servicing of work places rates:

$$N = \frac{m_o \cdot C_D \cdot C_A}{S_{OB}} \quad (23.18)$$

where m_o – quantity of the objects (work places) which are served; C_D – quantity of working shifts a day; S_{OB} – standard quantity of the objects, served by one worker; C_A – coefficient of attendance number made for registered workers:

$$C_A = \frac{100}{100 - F} \quad (23.19)$$

where F – planned percent of absence at a workplace.

Number of managerial personnel is calculated on the basis of sample consignment notes and personnel arrangements and of organizational structures of management models. Number of workers can be calculated not only on each separate management function, but also on separate kinds of works (registration, design, computing), on posts (designers, technologists, economists).

Personnel classification on professions, specialties and qualification is important.

The profession characterizes a kind of **labor activity**; the specialty is distinguished within a certain profession and characterizes rather narrow kind of works.

Qualification characterizes quality, complexity of work and is set of special knowledge and skills which determine degree of readiness of the worker to accomplishment of professional functions of the caused complexity. The concrete skill level is determined by means of wage rate books and characterized by categories. The skill level of heads, specialists and employees depends on an educational level and work experience.

Labor efficiency is the indicator characterizing its efficiency and which shows ability of workers to issue certain quantity of goods in time unit. The labor productivity level is characterized by an indicator of development which shows quantity of goods produced during a time unit, opposite to development is a labor input indicator.

Existing methods of development determination are resulted in Tab. 23.2.

Methods of determination of development

Method name	Method characteristics
Natural	Divisions of produced goods volume in physical units, on quantity of spent time in standard hours (a version of natural measuring instruments of development calculation is conditional and natural)
Price	Divisions of produced goods volume in UAH on costs of time mid-discount expressed to number of workers, or worked by them quantity of man-days, man-hours
Labour	Divisions of goods volume, presented in costs of working hours in standard hours, into quantity of workers

Labor efficiency planning is performed by a method of the direct account and a factor method.

The method of the direct account provides determination of a planned labor productivity level (P_{PL}) by division of the planned volume of product output in value term or in physical units (Q_{PL} or V_{PL}) on planned number of the industrial and production personnel.

$$P_{PL} = \frac{Q_{PL}}{N_{PL}} \text{ or } \frac{V_{PL}}{N_{PL}} \quad (23.20)$$

The factor method provides calculation of a labor efficiency gain through economy of workers number under the influence of various factors.

23.14. Concept of salary and its functions

Payment for work (salary) – is the money term of cost and the labor power price, existing in the form of any earnings paid by the owner of firm to the worker for performed work.

The salary of the worker irrespective to a firm type of activity is determined by its personal labor contribution, depends on resulting effects of a firm work, and isn't limited with the maximum size.

The base pay of the worker is determined by wage rates, official pay rates, price-work quotations, and also surcharges in the sizes established by the current legislation. Its size depends on results of work of the worker.

The size of an additional salary is determined by resulting effects of activity of firm and acts in the form of awards, compensations, incentive payments, and also surcharges in the sizes exceeding established current legislation.

The basic **functions of a salary**: 1) reproduction (the salary provides normal reproduction of labor power of corresponding qualification) 2) stimulating (payment induces workers to effective work at the work places).

Payment public policy is implemented through the mechanism of its adjustment, namely through an establishment of a salary minimum level, level of the taxation of workers incomes, interbranch ratios in payment, conditions and the sizes of payment in state-financed organizations, etc.

The tariff system which contains following elements **is a basis of the firm salary** organization: a schedule of charges; wage rates; wage rate books, system of official pay rates.

The schedule list represents the set of qualifying categories and tariff coefficients corresponding to them.

The size of a first category wage rate is determined at the level of the minimum size of a salary established by the state, below which payment for actually executed by the worker job can't be conducted.

Wage rates of other categories (C_i) are determined by multiplication of a wage rate of the first category (C_1) on tariff coefficient of a corresponding job grade (K_i):

$$C_i = C_1 \times K_i \quad (23.21)$$

The average tariff coefficient (K_{AV}) is determined as weighted average of multiplied product by number of workers of the certain category and by corresponding tariff coefficient or product of labor input of works under the certain category and by corresponding tariff coefficient for pieceworkers.

The average job grade (C_{AV}) is calculated under the formula:

$$C_{AV} = T_L + \frac{K_{AV} - K_{SM}}{K_{LAR} - K_{AV}} \quad (23.22)$$

where K_{SM} , K_{LAR} – correspondingly smaller and larger from two allied tariff coefficients; T_L – lower from two tariff classes.

Wage rate books contain the system of licenses and the workers of a certain profession and qualification.

Salary system provides referring of the workers to a certain group of payment for work on the basis of the relevant characteristics.

Two forms of payment of work are used in the firms: pay by the hour and piece rate pay.

Hourly form provides payment for work depending on hours worked and level of qualification. This form has the following systems:

1. **Direct hourly.** Earnings are calculated in this system (E_H) :

$$E_H = A_M \times T_H \quad (23.23)$$

where A_M – actually worked an hour for a month, hours/month; T_H – tariff rate per hour according to the class of worker, UAH

2. **Hourly-bonus system** according to which earnings (E_{HBS}) are calculated:

$$E_{HBS} = I_H + AF \quad (23.24)$$

where I_H – income which is charged according to the straight hourly wage system, UAH, AF – award fee for achieving of specific qualitative or quantitative indicators, UAH. The amount of extra payments is determined according to such a dependence:

$$AF = \frac{I_H \times \beta}{100\%} \quad (23.25)$$

where β – interest payments, %.

Salary system is a kind of hourly award fee system. According to this system employees are paid, whose work has a permanent character.

Piece rate pay form provides the dependence of the earnings number manufactured products or the amount of performed works over time.

Piece rate pay system has the following systems:

1. **A direct piece rate pay.** Earnings (E_D) according to this system are calculated by this formulae:

$$E_D = \sum_{i=1}^n C_R \times N_{Ai} \quad (23.26)$$

where C_R – contracting rate for the manufacturing of one product of one type, UAH/unit; N_{Ai} – the actual number of manufactured articles and of the first type which was made by the worker over time (usually monthly), un.; n – the number of manufactured articles' types.

$$C_R = T_{Pi} \times T_H \quad (23.27)$$

where T_{Pi} – time for producing of one product of i-type, hours.

- 2. Piece award fee form.** Total earnings (E_{PA}) according to this system are determined from the dependence

$$E_{PA} = E_{TAR} + A_{PP} \quad (23.28)$$

where E_{TAR} – tariff income of the worker in the straight piece wage system, UAH.; A_{PP} – the amount of premium payments, which is calculated by the formulae:

$$A_{PP} = E_{TAR} \cdot \frac{P_1 + P_2 + P_{OP}}{100\%} \quad (23.29)$$

where P_1 – interest payments for the fulfillment of the plan; P_2 – interest payments for each percentage of the overfulfillment of the plan; P_{OP} – interest of the overfulfillment of the plan.

- 3. Piece-progressive.** Salaries (E_{PP}) are calculated by the formulae:

$$E_{PP} = N_{OB} \cdot P_{ORD} + (N_A - N_{OB}) \cdot P_{INCR} \quad (23.30)$$

where N_{OB} – the original basis for charging of payments (is set at the level of 105 – 120% V_{PL}), unit; P_{ORD} – ordinary price for one product, UAH/unit; P_{INCR} – increased price for one product, UAH/unit.

- 4. Indirect piece payment.** It is used during the wage of the auxiliary workers and handlers.

Earnings assistant (E_{IND}) can be calculated from the dependence

$$E_{IND} = N_{Fi} \cdot P_{INDi} \quad (23.31)$$

where N_{Fi} – actually made the amount of production by the main worker per shift; P_{INDi} – indirect contracting price in services of the main worker, UAH/unit;

$$P_{INDi} = \frac{R_{SH}}{n \cdot N_{PLi}} \quad (23.32)$$

where R_{SH} – assistant variable tariff rate, UAH/shift, n – number of main workers who are served by one assistant, pers. N_{PLi} – planned output of production by the main worker, unit.

Earnings of the auxiliary worker (E_{AUXW}) are calculated by the formulae:

$$E_{AUXW} = T_A \cdot R_H \cdot K_N \quad (23.33)$$

where T_A – actually worked by an auxiliary worker time, hours.; R_H – hourly tariff rate of the auxiliary worker, hr/hour.; K_N – the average coefficient of norms at the bay, which serves an auxiliary worker.

Contract remuneration system is based on agreements between employer and contractor, in which working hours and conditions of the work are stipulated, rights and responsibilities of the parties, remuneration rate etc. Agreement can pay for the time for finding of the worker in the company, firm (hourly wages) or concrete assignments (piecework pay).

The system of profit sharing includes a distribution of the certain part of the profit of the company among its employees. Such a distribution may be conducted in the form of cash payments or distribution of shares among the company employees. Implementing such a system is caused by that fact that the existing wage system doesn't cause a real interest for workers in significant overall results of the company. A fair and understandable for all distribution of income between the owner of the company, administration, professionals and workers, create conditions for a good psychological atmosphere in the team and the prosperity of the company. Payments from income depend on the level of production costs and prices, the financial condition of the company. Their

sizes are determined by a separate agreement between the parties (at the conclusion of tariff agreements). The system of profit sharing are differentiated on the system of merit estimation, bonus payments system, a system of collective incentive, system of participation in profits, depending on labor productivity, etc.

23.15. The costs of the firm

The costs – a reduction of economic benefits in the form of disposal of assets or increase of the obligations that lead to the reduction of equity capital (except for reduction of capital due to its withdrawal or distribution by the owners).

Gross costs of production and circulation – the amount of any costs of the business entity in cash, tangible or intangible, implemented forms, which are made as compensation of the cost of goods (works, services) which are purchased (made) by such a business entity for their further usage in their own business activities.

Costs of the firms can be classified by the following features according to: **1) the emergency of costs:** costs of polling, the costs of the department, costs of the producing authority, production costs, etc., **2) the types of products** (works, services): costs per product, costs for a group of fungible products etc. **3) the types of expenses:** economic elements (details, items), estimating item ;**4) means of value transfer for a production:** direct – costs which are combined with the production of some types of production (raw materials, basic materials, outsourced products, unfinished products, etc.) that can be directly referred to a specific object of costs; indirect - costs which are combined with the production of several types of products (the costs for the maintenance and running of fitments, general productive) which are included in the production cost (works, services) using the special methods, **5) the degree of influence on the production level costs:** conventionally variables – costs, the absolute size of which increases with the increase of the quantity of output and decreases with its decrease (the costs for raw materials and basic materials, outsourced completed components, unfinished products, fuel technology and energy, for the employees' payment for work); conditional permanent – costs, the absolute size of which with the increase (decrease) of output of products significantly are not changed (costs which are related to the service work and management of production operations of the departments, the costs for the economic needs of production), **6) the calendar periods:** operating costs – the usual costs or costs with the periodicity which is less than a month, one-time costs – costs that are made periodically (frequency is more than a month) and are aimed at maintenance of the production process during a long time, the composition of expenditures: cell – are consisted only of one economically one-time element and are not subjected to the further division, complex – which are consisted of several economically diverse elements, but of those that have the same industrial and commercial purpose.

Cost – is monetary value of the corporate expenses which are related to the manufacture of products, work performance and service delivery.

The purpose of cost accounting of products is timely, complete and accurate determination of actual costs connected with the manufacturing products, and control in the usage of materials, labor and financial resources and other costs.

Cost estimates are the complete list of expenses for production and realization of products, grouped according to the economically one-time elements. The main elements of cost estimates are: 1) material costs, 2) labor costs, 3) the deductions for social events, 4) amortization; 5) other operating expenses. This grouping is the same for all firms. Cost estimates are used for the control of the overall costs of the enterprise or department according to the economically one-time elements. This is necessary during effecting payments to suppliers of relevant types of resources or

analysis of the element wise components of production costs, including materials consumption, energy content, labor intensity, capital coefficient of products, which are produced.

Calculation – is a presented in the tabular form the cost estimating for production and unit sales (products, works, services) or a group of one-time types of products. As well as the estimates of the cost calculation consists in cash. The structure of calculation is shown in Tab. 23.3.

Table 23.3

List of items costing	
Number of the article	Article Title
1	Raw materials
2	Outsourced completed products
3	Inverse waste (deducted)
4	Other manufacturing costs
5	Fuel and energy for technological purposes
6	Fixed salary
7	Additional salary
8	Allocations for mandatory social insurance
9	The costs for maintenance and running of fitments
10	Total production costs
11	Losses because of the inevitable technical drawbacks
12	Relevant production (signed off)
Production cost	
	Administrative expenses
	Selling expense
	Other operating expenses
Total cost	
	Profit
Wholesale price of enterprise	
	Value Added Tax
Wholesale selling price of the enterprise	

Unlike the cost estimate costing articles are grouped not according to the economically homogeneous (one-time) elements, but according to the areas of production activity. **Costing** is mainly used for estimating of the cost value unit of production and the further formation of the base price for production.

23.16. The financial results of the company operation. Profit. Break even point. Profitability

According to Accounting Standard 15 "Revenue", revenue is asset increase or decrease of liability that leads to the growth of equity capital (except the capital growth by contributions of the company members), provided that the assessment of income can be reliably measured.

Gross income – a total income of a taxpayer from all activities received (accrued) during the accounting period in cash, tangible or intangible forms as in Ukraine, its continental shelf and exclusive (marine) economic zone and beyond them.

Profit – is the fraction of revenue that remains to the company after the compensation of all costs connected with the production, realization of production and other types. Within market economy, the profit is the source of all financial resources of the company. The amount of profit can be determined by the formulae:

$$PR = Q \cdot P - (C_F + C_V \cdot Q) \quad (23.34)$$

where P – product price, C_V – total variable costs of the company; C_F – the amount of fixed costs of the firm.

There are following types of profit (income):

- 1) **balance (gross) profit** – the total profits of the company derived from all types of activities before its taxation and distribution. Sometimes the costs should be taken into account that reduce the amount of the balance of return (the land tax, property tax, vehicle owners tax, maintenance of kindergartens, etc.);
- 2) **operating profit** is determined by correcting of the balance of return on operating costs, which include: salaries with benefits, depreciation deductions, rent payments, transportation and business costs. It is this adjusted balance in the form of profit is the profit before tax (taxable income);
- 3) **net profit** – a profit that comes in order of the company after the payment of enterprise income tax. Debts and interest on loans are paid from the net profit and the rest is distributed for the consumption fund (payments to owners, shareholders and staff for the results of work) and the accumulation fund (used for investment needs and reserve fund).

Break-even point (P_{BE}) – it is such a production output and sale of products that are able to provide a break-even production process without loss. Break-even point can be determined by the formulae:

$$P_{BE} = \frac{C_F}{P - C_V} \quad (23.35)$$

Example: Gross costs for producing of one product is 140,06 UAH. The share of fixed costs in the total gross expenditure is 15%. Price of product is 200 UAH, and the annual registration program – 250000 units.

Identify the critical volume of products, excelling of which will provide profitable production process.

Guidelines for problem solving (task solution)

Let's define a critical volume of products that are able to provide a break-even production process using analytical method, let's determine the value of the fixed and variable costs:

$$C_V = 140,06 \times (1 - 0,15) = 119,051 \text{ UAH};$$

$$C_F = 250000 \times 140,06 \times 0,15 = 5252250 \text{ UAH}$$

$$P_{BE} = \frac{C_F}{P - C_V} = \frac{5252250}{200 - 119,051} = \frac{5252250}{80,949} = 64883,445 \approx 64884 \text{ (un.)}$$

Answer: the volume of products that can provide break-even production process defined by the graphical and analytical method is 64884 units of product.

Profitability – a relative index that characterizes the level of efficiency (yield) of the company.

Distinguish:

1. **Profitability of individual types of products** (PR_i):

$$PR_i = \frac{P_i - C_i}{C_i} \cdot 100\% \quad (23.36)$$

where P_i , C_i – accordingly price and the full cost of one product, UAH.

2. **Profitability of production** (PR_p) describes the cost efficiency for its production and sales and it is calculated:

$$PR_p = \frac{I_{REAL}}{C_{SAL}} \cdot 100\% \quad (23.37)$$

where C_{SAL} – total cost of sales, UAH; I_{REAL} – income from sales of production, UAH.

3. Profitability of production, which can be general (PR_{GEN}). These values are calculated using the formulae:

$$PR_{GEN} = \frac{P_B}{V_{AV} + A_{NOR}} \cdot 100\% \quad (23.38)$$

or

$$PR_{GEN} = \frac{P_N}{V_{AV} + A_{NOR}} \cdot 100\% \quad (23.39)$$

where P_N – net profits of the company, UAH; P_B – balance profits of the company, UAH; V_{AV} – the average value of fixed assets; A_{NOR} – average value of normalized circulating assets.

Profitability indicators characterize the effectiveness of usage of all types of resources, which provided a receipt of certain gross income.

The success of the company depends on the size of profit. Profit is a reward for owners and employees of the company, the source of sustainability and decision-making according the innovative development of the company.

23.17. Tax administration

Taxes and duties (mandatory payments) should be considered a mandatory contribution to the budget of the appropriate level or state earmarked fund, made by taxpayers in order and on conditions which are determined by the laws of Ukraine about taxation.

Taxes are the form of financial relations between state and society members with the goal to create a national centralized fund of cash resources which are necessary for fulfillment its state functions.

Taxes are set for maintenance of government branches (legislative, executive and judicial), the fulfillment of state functions – management, defense, social and economic, as well as for other social needs.

Duties are established for the using by the entity of certain resources that creates the income.

Payments are provided to cover certain costs which occur during the using of resources by the entity.

State earmarked funds – are funds which are formed by laws of Ukraine of taxes and duties (mandatory payments) of legal entities regardless of patterns of ownership and individuals. State earmarked funds are included in the State Budget of Ukraine, except the Pension Fund of Ukraine.

The payers of taxes and duties (mandatory payments) are legal and individuals, entrusted with the responsibility to pay taxes and duties.

The objects of taxation is the income (profit), value added products (works, services), cost of goods (works, services), including custom costs, or its physical indicators, special use of natural resources, asset holdings of legal entities and individuals and other objects designated by the laws of Ukraine about taxation.

Tax rate – a legally established amount of tax per unit of taxation.

The unit of taxation – is the unit (physical or monetary) of the tax object.

The taxation system in Ukraine is a combination of taxes and duties (mandatory payments), established on the basis of legal rules governing the size, forms and time of tax payments and

payments to government earmarked funds. Taxes in Ukraine are the main type of government revenue. Tax system of Ukraine provides for the following taxes and duties.

Taxation of legal entities. National taxes and duties: 1) value added tax, 2) excise duty, 3) income tax, 4) income tax of individuals (employees), 5) administrative fee, 6) real estate tax, 7) land rate 8) rent payments, 9) vehicle owners tax, 10) tax on fishery, 11) payment for trade patent, 12) duty for geological prospecting work, 13) duty for special use of natural resources; 14) duty for environmental pollution; 15) duty on obligatory state social insurance. Local taxes and duties: 1) tax from advertising, 2) municipal tax, 3) the hotel duty, 4) duty for car parking, 5) market duties, 6) duty for participation in racing at the racetrack, 7) duty filming 8) duty for the use of local symbols, 9) duty for local auctions, 10) duty for the passage on the territory of border areas.

Contributions to state specialized funds: 1) pension fund of Ukraine, 2) fund of the state social insurance in case of temporary disability, 3) contributions for the repair and construction of roads, 4) social insurance Fund in case of unemployment 5) Fund of deposit guarantee of individuals 6) Fund of social insurance against accidents at work.

Taxation of individuals. National taxes and duties: 1) income tax of individuals, 2) real estate tax, 3) land payment 4) tax from vehicle owners, 5) tax for trade, 6) stamp duty; 7) contributions to pension Fund, 8) duty for environmental pollution; 9) payment for trade patent, 10) contributions for compulsory state insurance in case of unemployment. Local taxes and duties: 1) the tax on advertising, 2) the hotel duty, 3) the duty for parking cars, 4) the market duty 5) duty for issuing a warrant for the apartment, 6) resort duty; 7) duty for participation in the running at the racetrack, 8) duty for run winning; 9) duty for participation in the game at sweepstakes, 10) duty for the right of use of local symbols, 11) duty for holding of local auctions; 12) duty for the passage on the territory of border areas.

The optimal tax system in Ukraine should follow these principles: 1) economic efficiency, 2) administrative simplicity and 3) flexibility, 4) political responsibility, 5) justice.

Taxpayers and duties (mandatory payments) must: 1) pay the proper amount of taxes and duties (mandatory payments) in the statutory terms, 2) maintain the accounting records, make reporting about financial and economic activities and to provide its preservation in terms fixed by law, 3) apply to the state tax authorities and other state bodies according to the laws of Ukraine of declarations, accounting records and other documents, information connected with the calculation and payment of taxes and duties (mandatory payments), 4) permit the officials of state tax authorities for inspection, calculation and payment of taxes and duties (mandatory payments).

The duty of the legal entity according to the payment of taxes and duties (mandatory payments) is broken - with taxes, duties (obligatory payments) or its cancellation.

The duty of individuals according to the taxes and duties (mandatory payments) is broken with the payment of taxes, mandatory payments (or with it cancellation), and in the case of the death of the payer.

Taxpayers and payers of duties (mandatory payments) have the right: 1) to challenge in the established procedure by the law the tax decisions of the state taxation bodies and the actions of their officers 2) get and acquaint with the acts of audits conducted by the state tax authorities, 3) apply to state tax authorities the documents confirming the right to benefits from taxation in the manner fixed by the laws of Ukraine.

Tax gross-up of payers and duties (mandatory payments) are made by the tax authorities and other government bodies in accordance with the laws of Ukraine. Banks and other financial and credit institutions open the accounts to taxpayers and duties (mandatory payments) only upon

condition of presentation of their documents confirming their assumption in the state taxation body, and within three days which notify the taxation body about it.

23.18. The concept of state control of business, its form and order of appeal of the results of inspections

Control – a systematic observation and checking of the actual status of indicators of financial and economic activities of enterprises, institutions and organizations to establish the deviations from the given parameters.

State control is brought to effect by government entities and public administration within their powers. State control is made in the form of audits and inspections.

Revision (inspection) – a method of documentary control over financial and economic activities of enterprise, institution, organization, compliance of the financial issues, reliability of accounting and rendering of accounts, the way a documentary exposing of the shortage, spending, misappropriation and theft of money and valuables, prevention of financial abuse. The act is made according to the results of revision.

Check-out – the inspection and study of specific areas of financial and business enterprises, institutions, organizations or its departments. The results of the checking are executed by the issued certificate or memorandum.

Supervisory authority – the state body, which exercises the control according to its promptitude, authenticity plenitude of charge of the taxes and duties, (mandatory payments) and paying off the tax liabilities or tax debt within its competence defined by law.

Control authorities have the right to check the timeliness, accuracy, completeness, calculation and payment only according to those taxes and duties (mandatory payments) that are referred within their competence.

Other state bodies have no right to spend checking of the timeliness, accuracy, completeness of accrual and payments of taxes and duties (mandatory payments), including requests of law enforcing bodies.

During the inspection, which is carried by the tax authorities, the leaders and officials of legal entities and individuals must give explanations about taxation in cases stipulated by laws of Ukraine, to fulfill the requirements of state tax authorities about to elimination of violations of laws of Ukraine about taxation and sign deeds of the carrying out of checking.

Planned field check should be held no more than once a year after written notice of the taxpayer not later than 10 days. The term of such check-out should not exceed 20 days, and as for small business entities – 10 days. Since there is no indication of the fact, that there should be working days, the term of check shall be calculated in the calendar days.

Only a court for a term not exceeding 10 days can extend the planned field check, and for small entities of business – up to 5 days.

Unscheduled field check can be made only on the basis of court decision.

The decision about removal of the original economic and financial-accounting documents, the suspension of operations on accounts in the banks, other financial institutions in connection with violation of tax legislation can adopt only trial.

It is banned to remove the document that do not confirm the facts of the violation of current legislation of Ukraine about taxation.

The tax police is allowed to carry out checks within the operational activities and criminal proceedings. The original police documents (tax police) can be removed only by court order, in the

presence of witnesses and business leaders. Special forces of militia (tax police) are sent for checking only by court (judge) within crime investigations.

Entrepreneur has the right to appeal the decisions of supervisory bodies in the established order by legislation.

The complaint must be given to the supervisory authority within 10 calendar days following the day of a taxpayer of tax notification or otherwise controlling body, which is impugned.

Controlling body is obliged to take a reasoned decision and send it within 20 calendar days from receipt of the complaint to the taxpayer's address by mail with return receipt or grant him a receipt. In case if the controlling authority shall send the taxpayer a decision about full or partial dissatisfaction with his complaint, a taxpayer can appeal within 10 calendar days, following the day of the answer, with repeated complaints of the controlling body of higher authority.

The final decision of the highest (central) controlling body of the supervisory authority of taxpayer is not subjected to further administrative appeal, but can be challenged by court.

Questions for self-check:

1. What is entrepreneurship? On basis of what principles is it complemented?
2. What is company? By what features may companies be classified?
3. What is entrepreneurial idea? What is the mechanism of its implementation?
4. What is government registration of business subjects?
5. What is government control over business?
6. What is licensing of economical activity?
7. What is patenting of economical activity?
8. What do peculiarities of contractual relationship in entrepreneurship consist in?
9. Disclose the main point of planning and its peculiarities in entrepreneurship.
10. What are the company key assets? What kinds of company key assets cost estimate do you know?
11. What efficiency indexes of company key assets usage do you know? How are they calculated?
12. What is amortization? How is the sum of depreciation charges calculated?
13. Which company assets are appropriate to be referred to intangible?
14. Disclose the economic essence of company circulating assets. What methods of rate setting and effectiveness appraisal of circulating assets usage do you know?
15. What is company staff? How is the quantity of company staff defined and economic effectiveness of its usage estimated?
16. What is salary? What functions does it perform? What forms and systems of payment do you know?
17. What are expenses? What is production cost price? What is calculation?
18. What is the difference between the notions of “income” and “profit”? What is the break-even point?
19. What is profitability? How is profitability estimated?
20. What do peculiarities of business systems of taxation and government control consist in?