

**EXAMPLE OF THE FRONT PAGE OF MASTER'S LEVEL
DEGREE QUALIFICATION PAPER**

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SUMY STATE UNIVERSITY

Educational and Research Institute of Business, Economics and Management
Department of International Economic Relations

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QUALIFICATION PAPER

It is submitted for the Master's degree

Specialty 292 "International Economic Relations"

on the topic "Reengineering of the management system of international companies"

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It is submitted for the Master's level degree requirements fulfillment.

Master's level degree qualification paper contains the results of own research. The use of the ideas, results and texts of other authors has a link to the corresponding source

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Sumy, 2023

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SUMY STATE UNIVERSITY
Educational and Research Institute of Business, Economics and Management
Department of International Economic Relations

TASKS FOR MASTER'S LEVEL DEGREE QUALIFICATION PAPER

(specialty 292 " International Economic Relations ")

student 2 course, group _ МБ.М-21аН

(course number) (group's code)

Kobyzskyi Denys S.

(student's full name)

1. The theme of the paper is «Reengineering of the management system of international companies»

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3. The purpose of the qualification paper is research of reengineering of the management system of international companies.

4. The object of the research is reengineering of the management system

5. The subject of research is international companies

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Chapter 1 Theoretical basis of reengineering of the management system of international companies

(title, the deadline for submission)

Chapter 1 deals with explore reengineering of business processes of industrial enterprises: theoretical and applied principles, theoretical principles of reengineering of communication business processes of entrepreneurial structures

(the content of concrete tasks to the section to be performed by the student)

Chapter 2 Methodical approach of reengineering of the management system of international companies

(title, the deadline for submission)

Chapter 2 deals with to externality as an indicator of the effectiveness of business process reengineering, financial and credit provision as an economic mechanism of effective branch reengineering

(the content of concrete tasks to the chapter to be performed by the student)

Chapter 3 Development of the reengineering of the management system of international companies

(title, the deadline for submission)

Chapter 3 deals with to functioning of the marketing system of distribution in object markets, transformational provision of industrial products of international companies to international markets

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ABSTRACT

of Master's level degree qualification paper on the theme «Reengineering of the management system of international companies» student Kobyzskyi Denys S.

The main content of the master's level degree qualification paper is set out on 45 pages, including a list of used sources of 31 titles, which is placed on 4 pages. The work contains 4 tables, 10 formulas.

The purpose of the master's level degree qualification paper is research of reengineering of the management system of international companies.

The effective industrial production is a significant factor in the development and stable functioning of the Ukrainian economy. Domestic industry has the potential to manufacture products with a substantial share of added value. Moreover, the industrial sector accounts for over fifty percent of the country's export volume. However, there is currently a pressing need to significantly enhance the efficiency of economic activities within industrial enterprises.

To achieve this goal and objectives there were used following scientific methods of research: systematization and generalization (by theoretical justification - the concept of competitive ability), comparison (in the process of reengineering of the management system of international companies), systematic analysis (during the study of the concept competitive ability at different levels).

Researching the role of potential in the operations of industrial enterprises during the radical redesigning of business processes is a pertinent task in the current stage of developing productive forces. This is because the development of elements within the third and fourth industrial revolutions influences the marketing efforts of industrial enterprises. Consequently, there is a necessity to employ change management methods, such as business process reengineering, in the operations of industrial enterprises aiming for a significant enhancement of economic efficiency in their business activities.

The information base of the master's level degree qualification paper is statistical reporting, periodical literature, educational literature, reports.

The main scientific results of the work are as follows: the theoretical provisions of reengineering of the management system of international companies have been researched, methodological support for evaluating reengineering of the management system of international companies has been formed, practically tested in the work of international companies.

Research methods - the systematic method - when researching the theoretical provisions of the RBP of international companies, the structural method when forming the methodological apparatus of the RBP, the method of abstractions - when forming research conclusions, the statistical method - when researching transformative markets

Approval of work materials – carried out in the work of companies of the production sector in the construction of strategic and tactical planning of international economic activity

One of the key directions for the successful implementation of business process reengineering is its institutional support. It's important to note that in conditions of an unstable economy and an extremely challenging political environment in the country,

support from the state towards the industrial complex is highly necessary and should be reflected in the overall country's development strategy. Therefore, researching the institutional support for reengineering the marketing sphere of industrial enterprises is essential for implementing the policy of promoting domestic products in international markets.

Adherence to the principles of reengineering communication business processes within entrepreneurial structures will elevate the enterprise to an entirely new level, ensuring its competitiveness and fostering increased demand for the offered products or services.

Implementing new communication activity tools in line with real-life scenarios will effectively contribute to satisfying consumer needs and the economic growth of the enterprise in both domestic and international markets.

The effectiveness of any enterprise's functioning lies in establishing and fine-tuning information communication links. The role of communication policy involves adapting production to environmental demands, consumer requirements, and market situations. Viewing a company's marketing communication policy as an information exchange and relationship-building process with consumers, as well as constantly monitoring the market and solidifying established positions, is pertinent.

In business activities, the concepts of "external" and "internal" communication hold increasingly robust positions. "External communication" refers to information dissemination beyond the enterprise to establish a communicator's connection with information consumers. For instance, examples include advertisements in mass media, exhibitions, direct marketing, and distributing promotional materials.

"Internal communication" allows for information exchange within the organization, whereas "external communication" involves information exchange between the organization and the external environment. Almost all communication connections are facilitated through advertising efforts; it's at this level where both internal and external communications work in the same direction. Both internal and external communications are characterized by diversity, significance, informativeness, and importance and are conducted both at the level of structural departments and externally, aiming for long-term perspectives.

The exploration of scientific and applied aspects in the implementation of business processes within the marketing sphere of industrial enterprises enables the incorporation of benchmarking elements from studies on radical transformations in companies across various sectors of the country's industrial complex. This allows for the identification of advanced practices in implementing business process reengineering by domestic industrial enterprises and the formulation of a map for the successful execution of business process reengineering based on the experiences of companies that have already undertaken it.

KEYWORDS: reengineering of the management system, business processes, companies, assessment, criteria.

Year of Master's level qualification paper fulfillment is 2023.

Year of Master's level paper defense is 2023.

CONTEST

| | |
|--|----|
| Introduction | 7 |
| 1 Theoretical basis of reengineering of the management system of international companies | 9 |
| 1.1. Reengineering of business processes of industrial enterprises: theoretical and applied principles | 9 |
| 1.2. Theoretical principles of reengineering of communication business processes of entrepreneurial structures | 11 |
| 2 Methodical approach of reengineering of the management system of international companies | 18 |
| 2.1. Externality as an indicator of the effectiveness of business process reengineering | 18 |
| 2.2. Financial and credit provision as an economic mechanism of effective branch reengineering | 23 |
| 3. Development of the reengineering of the management system of international companies | 26 |
| 3.1. Functioning of the marketing system of distribution in object markets | 26 |
| 3.2. Transformational provision of industrial products of international companies to international markets | 30 |
| Conclusions | 40 |
| References | 42 |

Introduction

Justification of the choice of topic and its relevance. Besides the general trend in the industry as a whole and the economy in general, some industrial sectors experienced a particularly acute crisis. Thus, Ukrainian mechanical engineering, owing to its deep-rooted orientation towards consumers with a post-Soviet mentality and corresponding field of nomenclature requirements, found itself in the most disadvantageous position. The deterioration of economic indicators in 2022-2023 further exacerbated the deficit in adopting new technologies in the Ukrainian industry as a whole. Therefore, a situation arose where, in the absence of real state support and the cessation of funds from existing customers due to their departure, industrialists faced overly bold challenges during a sharp deficit of funds. Consequently, instead of robust innovative development, industrial enterprises significantly reduced their expenses on the acquisition and implementation of new technologies. Accordingly, with a 60% decline in the national currency's value, the indicators reflecting the worsening state of innovative activity nearly doubled.

Degree of the studied problem. It is also important to note that in today's economic conditions, companies are facing crises within the country's economy. However, in this case, the company's management is merely attempting to implement restructuring in the problematic areas of its operations. This approach will not yield the necessary effect for the sustainable development of the enterprise since fragmented methods of change are aimed solely at addressing individual issues within business operations and do not comprehensively resolve the problem. Therefore, in such circumstances, it is crucial to employ more radical management methods, such as the radical redesign of business operation processes (business process reengineering), with the aim of expanding the market for their products and accessing external markets for sales.

Object of research is reengineering of the management system.

Subject of research is international companies

The purpose of the work is research of reengineering of the management system of international companies.

Tasks of the work are explore: to investigate the theoretical support of the reengineering of business processes of international companies, to form methodical approaches to the assessment of reengineering of business processes of companies, to improve the elements of reengineering of business processes of international companies.

Research methods - the systematic method - when researching the theoretical provisions of the RBP of international companies, the structural method when forming the methodological apparatus of the RBP, the method of abstractions - when forming research conclusions, the statistical method - when researching transformative markets

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1 Theoretical basis of reengineering of the management system of international companies

1.1.Reengineering of business processes of industrial enterprises: theoretical and applied principles

The effective industrial production is a significant factor in the development and stable functioning of the Ukrainian economy. Domestic industry has the potential to manufacture products with a substantial share of added value. Moreover, the industrial sector accounts for over fifty percent of the country's export volume. However, there is currently a pressing need to significantly enhance the efficiency of economic activities within industrial enterprises.

The exacerbation of economic issues, increased competition, and market instability necessitate the search for appropriate methods to improve production efficiency. These methods should ensure a high level of competitiveness for industrial enterprises and reinforce the resilience of their competitive positions. In such circumstances, one effective approach could be the reengineering of production processes within industrial enterprises [1].

Given the absence of a clear, positive trend in the economic activities of the industrial sector, there arises a need for an effective toolkit capable of ensuring radical improvement in the operations of business entities.

In our view, an effective factor for success lies in the reengineering of enterprise business processes. M. Hammer and D. Champy [2] perceive the essence of reengineering as starting everything anew. Reengineering involves a fundamental rethinking and radical redesign of business processes aimed at achieving a significant enhancement in the quality of organizational functioning.

Implementing effective business process reengineering involves the execution of specific principles:

- The principle of efficiency;
- The principle of cost-effectiveness;
- The principle of balance;
- The principle of risk-taking;
- The principle of information noise;

- Optimization of coordinating processes;
- The principle of loyalty;
- The principle of accountability;
- The principle of corporate culture;
- The principle of goal orientation;
- The principle of provision;
- The principle of strategic optimum;
- The principle of standardization [3]

A critical analysis of researchers' works and the authors' own approaches has led to the identification of recommendations for the successful implementation of reengineering [4]:

- Business process reengineering should be simultaneously applied with strategic planning, which considers the use of advanced technologies as a competitive tool.

- The consumer should be at the core of business process reengineering to minimize delays or other negative impacts on their service. The reengineering of business processes is carried out across the entire enterprise by its employees, not solely by external consultants.

- Business process reengineering should encourage top managers who were not considering leaving the company.

- Reengineering projects should have a timeframe of three to six months to avoid "uncertainty."

- Business process reengineering should not disregard corporate culture; instead, there should be constant communication and feedback.

Researchers identify the following groups of indicators through which the monitoring of business process optimization effectiveness can be conducted: performance indicators of the business process, cost indicators of the business process, time indicators of the business process, quality indicators of the business process, fragmentation indicators of the business process, turnover indicators of the business process, and consolidation indicators of the business process [5, 6].

It's worth noting that reengineering is not merely a contemporary trend but a consequence of intense competitive pressures that necessitate the implementation of scientifically-driven innovative technological means to enhance the productivity and efficiency of business operations [7].

The implementation of the reengineering concept in the production process of industrial enterprises involves conducting monitoring and scanning of the competitive environment. To make appropriate managerial decisions, it is crucial to systematically analyze and forecast the dynamics of various indicators within the competitive environment, a task achievable only through analytical and predictive activities [8].

Therefore, the demands of the time necessitate the establishment of an effective preventive system against the negative impact of external and internal factors, the maintenance of competitive advantages in the market, and the development of measures to enhance the competitiveness of the enterprise. To address these objectives, business process reengineering stands as one of the effective, modern tools for the efficient operation not only of industrial enterprises but also for the national economy as a whole.

1.2.Theoretical principles of reengineering of communication business processes of entrepreneurial structures

The issue of improving the operations of enterprises of various ownership forms and their specific units has become notably prominent in the past decade. Opening borders, implementing visa-free regimes, and intensifying competition, both domestically and internationally, have been compelling reasons for radical changes in entrepreneurial structures (ES).

Modern enterprises actively utilize marketing communications to promote products/services, thereby securing market positions and retaining loyal customers. However, consumer tastes and preferences evolve over time, demanding higher product/service quality and considerations regarding pricing. Consequently, methods of promotion and customer influence undergo continuous changes. Therefore, enterprises are compelled to experiment and take radical steps to maintain competitive market

positions as traditional methods gradually lose relevance compared to innovative approaches.

To address these challenges, it's crucial not only to conduct research and monitor new communication tools but also to implement fundamental changes in the regular business processes to enhance efficiency. Fundamental reconsideration and radical redesign of business processes are outcomes aimed at significantly improving the quality of enterprise functioning [9].

A range of studies by both foreign and Ukrainian scholars, such as Hammer M., Champy D. (defining the essence of reengineering), Tarianiuk L. M., Grytsenko P. V., Komelina O. V., Kotko T. A., Rozkoshna O. A., Vinogradova O. V. (reengineering of business processes in industrial enterprises, management structures, X-engineering, etc.), Hutsalo A. V. (reengineering of business processes in subcontracting enterprises), Sumets A. M. (reengineering of business processes in logistics), and others, are dedicated to the issues of reengineering business processes in enterprises.

However, in both domestic and international research, the primary focus remains on practical aspects, theoretical foundations, methodology, and the economic rationale of reengineering business processes in various industrial enterprises. Meanwhile, the communication business processes of entrepreneurial structures are overlooked by researchers and require more in-depth examination.

Communication policy plays a vital role in the activities and economic stability of ES (entrepreneurial structures). It is not a stagnant substance and should not remain static. Communication processes are dynamic, open to societal changes, and necessitate continuous improvement and reengineering.

Communication activity - a set of actions and measures through which an enterprise transmits information to the market about its goods, identifies consumer needs, stimulates their purchases, and directs demand [10].

The analysis of definitions for "communication activity," "reengineering," "business processes," and "reengineering of business processes" revealed that all researchers adhere to similar definitions of these concepts. Therefore, concerning the reengineering of communication business processes in entrepreneurial structures, it can be understood as a

comprehensive integration of methods and measures aimed at radical changes in the communication business processes of enterprises. This aims to eliminate crisis phenomena and implement entirely new tools of marketing communication policies to engage in an interactive dialogue with all stakeholders involved in the promotion and sale of products (contractors, consumers). This approach ensures effective influence on target audiences, obtaining feedback, satisfying their needs, and maintaining stable profitability for the enterprise.

The reengineering of communication activity in entrepreneurial structures aims for a complete reconsideration and radical alteration of the implementation and use of marketing tools, thereby enhancing additional competitiveness in the market. However, the reengineering process involves a prolonged period during which management and staff should be prepared for fundamental changes regarding business processes. This involves additional financial investment, continuous skill enhancement, and professionalism among the marketing team, among other aspects.

The directions of reengineering of communication business processes, reasons, and the expediency of conducting reengineering considering the concepts of M. Hammer and J. Champy are presented in Table 1.1.

Table 1.1 - Reasons and expediency of reengineering [9]

| | Wise for Actions | Vision Statement | Result |
|---|--|---|--|
| 1 | Changes in the market for this product of the enterprise | Carrying out a detailed analysis of the product market situation | Immediate response to changes |
| 2 | Classical MK methods and tools do not work | Search and use of the latest tools, "your niche", application of the "brainstorming" method | Prompt delivery of information to the consumer |
| 3 | Emergence of new competitors | Regulation of price policy, consumer audience analysis, introduction of promotional conditions for new and existing consumers | Customer retention Attracting new ones Taking radical measures Formation of a single goal |
| 4 | Personal | Systematic participation in trainings of leading business marketers of leading companies. Improving the qualifications of | Creation of infrastructure for training, career growth and development of creative abilities of personnel. |

| | | | |
|--|--|---|--|
| | | marketing service specialists (targeted courses, retraining programs, in particular abroad) | Priority in the market of communication services. Adherence to the main strategy. enterprises. Orientation to victory. Work in a team |
|--|--|---|--|

Therefore, based on the analysis of the feasibility of reengineering business processes in the field of communication activities, we define its main directions:

1. Studying the market conditions for the product (service), adopting an approach to implement the company's products from the consumers' perspective, and sustaining competitiveness.

2. Conducting a comprehensive analysis of the existing communication policy system within the enterprise.

3. Developing communication strategies for the enterprise and communication plans.

4. Determining priority areas for implementing communication policies.

5. Transitioning to radically new communication policy tools (such as virtual exhibitions using holographic objects, engaging customer bases through social media reposts, and participation in various promotional activities, maintaining social media pages, etc.).

6. Developing a scientifically substantiated system to stimulate demand for a particular product or service.

7. Implementing a trial regime to introduce new communication tools.

8. Developing methodological support for marketing research techniques in the product or service sales of the enterprise.

9. Applying modern information technologies in communication activities.

10. Expanding the specialized training of staff and conducting systematic skill development for marketing department employees.

11. Extensively involving researchers from the Marketing Department and students majoring in Marketing in collaboration efforts.

Opting for a course of radical changes in the existing structure of communication business processes within entrepreneurial structures involves defining and adhering to specific Business Process Reengineering Principles. These principles serve as a foundation for achieving high outcomes and competitive positioning in the market for the respective products (services). Some of these principles include:

1. Leadership understanding and endorsement of the communication business process reengineering by the top management of the enterprise.
2. Embracing the concept of corporate culture open to radical changes and transformations.
3. Focus on the implementation process of changes rather than functions and duties.
4. Flexibility in executing the communication process, ensuring adaptability to external changes.
5. Selecting the process based on a thorough understanding of consumer needs and expected successful outcomes.
6. Preparedness for risks with subsequent refinement of the chosen communication policy strategy of the enterprise.
7. Support for the chosen business processes in implementing communication tools at all levels and facilitating the achievement of effective results.
8. Encouraging autonomous decision-making among participants involved in communication business processes, fostering a creative approach to task execution.

Adherence to the principles of reengineering communication business processes within entrepreneurial structures will elevate the enterprise to an entirely new level, ensuring its competitiveness and fostering increased demand for the offered products or services.

Implementing new communication activity tools in line with real-life scenarios will effectively contribute to satisfying consumer needs and the economic growth of the enterprise in both domestic and international markets.

The effectiveness of any enterprise's functioning lies in establishing and fine-tuning information communication links. The role of communication policy involves adapting production to environmental demands, consumer requirements, and market situations.

Viewing a company's marketing communication policy as an information exchange and relationship-building process with consumers, as well as constantly monitoring the market and solidifying established positions, is pertinent.

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While influencing the external environment, achieving set goals, adapting to the market, and establishing business relationships, it's crucial to consider the internal communication system. Internal communication enables interaction with internal target groups and controls the internal behavior of entrepreneurial structures.

The integrated work of external and internal communications will reinforce the employee motivation system, help adapt to emerging changes within the enterprise, enhance the ability to react promptly to changes in the external environment, and foster strong relationships with other market representatives. Having good knowledge and timely information about the current situation is essential for the prospective functioning in the external environment.

"Internal communications" refer to the utilization of marketing communication tools within the framework of the enterprise, where both the communicator and the information consumer are within the boundaries of the same structure. Internal communications encompass the advertising and informational policies chosen by the enterprise, such as

corporate newspapers (bulletins), notices on information boards, messages through corporate radio, television connections, employee gatherings, and so forth.

To effectively organize the communication policy within an entrepreneurial structure, it is necessary to professionally integrate external and internal communications. This requires a detailed understanding of both the external environment in general and the peculiarities of the communicative process in particular. Effective human resource management, teamwork skills, continuous professional development, and self-education of the marketing department staff will contribute to positive outcomes in external communications.

Research conducted by scientists and practitioners indicates that one of the primary tools for optimizing communication processes within a company is reengineering. The essence of reengineering in communication activities lies in the radical transformation of these business processes. However, not every enterprise is ready to immediately abandon established mechanisms of operation and embrace entirely new changes. Therefore, the question of transforming or updating just one effective aspect of operation and maintaining customer contact – the communication policy – remains relevant in the modern era because communication systems are quite flexible and can quickly adapt to emerging changes. Implementing reengineering in the communication policy of a company will lead to significant positive changes.

2 Methodical approach of reengineering of the management system of international companies

2.1.Externality as an indicator of the effectiveness of business process reengineering

Usually, a system of indicators that help determine the effectiveness of business process reengineering includes metrics related to profitability, process cost, productivity, duration, and more [9, 11,12,13].

However, considering the priorities of contemporary society, the ecological aspect of implementing revolutionary changes in business processes becomes exceptionally significant.

The coordinated improvement of economic and environmental performance within a company, through the fundamental reassessment and radical redesigning of existing business processes, should contribute not only to the more efficient use of material resources, the production of competitive goods, cost reduction, and improved working conditions, but also involves establishing an effective system of rational environmental use. This includes the implementation of eco-friendly, resource-saving, and energy-efficient technologies and protecting the natural environment on technologically impacted territories [14]. Therefore, the relevance of implementing business process reengineering in the context of ensuring ecological safety is unquestionably a significant task, particularly requiring an assessment of the extent of external costs related to such production. Consequently, the research's aim is to substantiate the need to consider the externalities of economic activities when evaluating the effectiveness of implementing business process reengineering.

Assessing external costs belongs to the category of quite complex economic tasks, as it requires considering a significant set of factors that shape the magnitude of the economic and environmental damage. According to L.G. Melnyk [15], these factors include:

- Impact factors that reflect the level of destructive influence on the natural environment.
- Perception factors that determine the number of entities experiencing negative effects.
- Condition factors related to the characteristics of the economic system, allowing for evaluating natural negative changes in society and the environment in terms of value.

- Time factors exhibited in the transformation of costs from different time periods into the present.

- Uncertainty factors resulting from the uneven impact of eco-destructive influences over time, changes in raw materials composition, and technical characteristics of technological equipment.

To simplify determining the magnitude of external costs caused, for instance, by the generation of industrial waste, [16] suggests, based on the synthesis of externalities theory, considering these external losses as unproductive social expenditures associated with the creation of adverse environmental impact. This approach disregards economic impersonality and multi-addressed nature of eco-economic losses but considers state factors characterizing the economic system generating externalities and impact factors establishing the level of negative influence.

Considering that both produced goods and by-products (solid industrial waste) result from value creation and that the production of each unit of final products is linked to the creation of solid waste characterized by waste generation rates, the dependency of the magnitude of external costs due to environmental pollution by solid industrial waste on factors defining the relevant adverse impact appears as follows:

$$Z_{30BH} = \frac{C_{\pi}}{Q} \cdot \frac{M_{3ar}}{Q} \cdot M_{3ar} \quad 2.1$$

where C_{π} – added value of production, UAH/t;

M_{3ar}/Q – waste capacity of production, um. t/t;

Q – annual volume of produced products, tons;

M_{3ar} - the given mass of solid waste generated per year, um. t.

$$M_{3ar} = 5000 \cdot M_1 + 500 \cdot M_2 + 50 \cdot M_3 + 1 \cdot M_4 \quad (2.2),$$

where M_1, M_2, M_3, M_4 – conventional units, the value of which is equal to the amount of generated waste of all hazard classes.

Due to a number of formal transformations of the formula (4.1), it is possible to obtain the quadratic dependence of the amount of external costs on the waste capacity of production (K_{od}), where the value characteristic is the added value:

$$Z_{30BH} = C_{\pi} \cdot K_{bidx}^2 \quad (2.3)$$

In the case when part of the solid waste is disposed of by the enterprise, the

$$Z_{30BH} = \frac{C_{\text{д}}}{Q} \cdot \frac{M_{3\text{аг}}}{Q} \cdot (M_{3\text{аг}} - M_{\text{yт}}) \quad 2.4$$

dependence of the value of external costs on influencing factors can be represented by the following formula:

where $M_{\text{yт}}$ – given mass of disposed waste, um. t.

$$M_{\text{yт}} = 5000 \cdot M_{1\text{yт}} + 500 \cdot M_{2\text{yт}} + 50 \cdot M_{3\text{yт}} + 1 \cdot M_{4\text{yт}} \quad (2.5)$$

In its final form, dependence (2.3) can be presented as follows:

$$Z_{30BH} = C_{\text{д}} \cdot K_{\text{в\text{л}d\text{x}}}^2 \cdot \left(1 - \sum_{i=1}^4 R_i\right) \quad 2.6$$

where R_i – rate of use of i -th hazard class waste

$$\frac{M_{\text{yт}}}{M_{3\text{аг}}} = \frac{\sum_{i=1}^4 n_i \cdot M_{i \text{ yт}}}{M_{3\text{аг}}} = \sum_{i=1}^4 R_i \quad 2.7$$

Taking into account the time factor, formulas (2.3) and (2.6) take the following form

$$Z_{30BH}^T = \sum_{t=0}^T C_{\text{д}t} \cdot K_{\text{в\text{л}d\text{x}}}^2 \cdot (1+E)^{-t} \quad 2.8$$

$$Z_{30BH}^T = \sum_{t=0}^T C_{\text{д}t} \cdot K_{\text{в\text{л}d\text{x}_i}}^2 \cdot \left(1 - \sum_{i=1}^4 R_{i t}\right) \cdot (1+E)^{-t} \quad 2.9$$

Where $(1 + E)^{-t}$ - conversion factor (discounting);

t - lead time period in years;

E - the discount rate, which takes into account the minimum rate of return on the use of funds in this direction of economic activity (or the minimum value of the lost benefit from the investment of funds).

The application of a methodological approach based on considering the cost and material characteristics of waste generation processes enables the evaluation of additional social costs arising from the activities of a manufacturing enterprise. For instance, the calculated magnitude of external losses, determined by the proposed algorithm, resulting from the operation of the Mykolaiv Alumina Plant, amounts to 811.2 million UAH. However, in compliance with current legislation, the company pays an environmental tax of only 260,000 UAH for the disposal of the annual volume of solid industrial waste.

Comparing the environmental tax amount for waste disposal with the magnitude of external costs reveals that the additional societal costs exceed the internal expenses of the economic entity generating such externalities by more than 3000 times.

Thus, the level of societal costs is inadequate in relation to the compensation payments for environmental pollution, which industrial enterprises should reimburse for the created economic and environmental losses. The existing economic mechanism for natural resource management in Ukraine inadequately considers the losses incurred by society due to the adverse impact of economic entities on the components of the environment.

To effectively implement an ecological policy and better consider public interests and control the magnitude of incurred damages, it's advisable during the implementation of business process reengineering to utilize an indicator such as production externality. This recommendation is motivated by the considerable challenge in obtaining an adequate assessment of the ecological aspect of industrial and economic activities until recently.

The existing methodological approaches are insufficient to comprehensively assess eco-destructive impacts due to several reasons:

- Most social and ecological consequences are inherently impossible to quantify (e.g., disruptions in human psychology caused by environmental changes due to pollution).
- Obtaining comparable assessments is complicated by the "varying remoteness" of manifestations of external effects over time and space [15].

In this context, production externality should be viewed as an economic and ecological indicator of industrial and economic activities, reflecting the level of additional costs imposed on society due to the production of a unit of final product.

$$z_{\text{np}} = \frac{Z_{30\text{BH}}}{Q} \quad (10)$$

The concept of production externality (Z_{np}) refers to the assessment of the societal costs associated with the production of a specific product. For instance, the calculated production externality for the Mykolaiv Alumina Plant stands at 811.2 UAH per ton of product. In essence, by producing 1 ton of alumina, the company imposes additional costs of 811.2 UAH on society due to the generation of technological waste (red mud), which necessitates compensation for the adverse impact. Conducting business process reengineering (BPR) at the enterprise could reduce these external costs, and the saved funds could be redirected towards social development or scientific research.

Economically, the decision-making mechanism often revolves around cost-benefit analysis. An acceptable decision is one where the potential benefits outweigh the costs. Hence, an adequate consideration of the ecological aspect in evaluating economic activities can be achieved by comparing economic results with the magnitude of external costs associated with achieving these results.

The case of the Mykolaiv Alumina Plant illustrates that, environmentally, its activities generate losses since:

- The effect society receives is undeniably negative (external costs exceed the created useful value by 211.2 UAH/ton).
- The eco-economic efficiency stands at 0.74.

Moving forward, the further development of economic systems linked to global BPR should prioritize reducing production externality. Possible directions for minimizing this indicator in assessing the effectiveness of BPR are outlined in Figure 2.1.

Hence, considering the need for flexible and prompt adaptation to changes in consumer needs, qualitative improvement of technological, organizational, and environmental strategies, understanding the specifics of implementing BPR, its

effectiveness, and assessing the efficiency and cost-effectiveness of any economic entity's production activities, mandates the obligatory consideration of the ecological factor. This can largely be achieved by incorporating indicators into the system that determine the efficiency of BPR, particularly the production externality indicator.

Application of the proposed eco-economic indicator for quantifying the ecological level of production within the comprehensive and profound restructuring of the enterprise management system not only allows us to identify the extent of the harm that today's society may inflict on future generations, but also enables regulating this impact to a socially acceptable level [17].

2.2. Financial and credit provision as an economic mechanism of effective branch reengineering

Ensuring the effective functioning of any commodity market in the contemporary stage of economic development is inconceivable without a well-developed financial and credit servicing system, which is one of the most crucial components of the market's marketing infrastructure. Generally, the issues and challenges regarding financial and credit provision of the market are quite similar. However, adapting them to a specific commodity market reveals certain differences caused by the diversity of production, distribution, and consumption processes [18].

In the case of agricultural produce markets, they exhibit distinct characteristics, primarily linked to the seasonality of production, leading to seasonal gaps between investment and fund inflows, continuous reproduction processes, and the necessity for circulating assets, among others. All these factors transform agriculture into an arena where credit resources play a pivotal role in commercial activities, and credit stands as the principal source for replenishing enterprise financial resources.

Despite the urgent need for an effectively functioning financial and credit system that is adequate to modern market conditions, financial and credit support for agricultural producers, which we believe primarily applies to them, has not yet been adequately established. The issues surrounding the financial support of farmers, which persist unresolved, have necessitated the exploration of solutions [19, 20].

Numerous scientific works have been dedicated to the issues of financial and credit servicing of agricultural enterprises. Some prominent contributors to this field include P.T. Sabluk, V.M. Aleksiychuk, M.Ya. Demyanenko, M.Y. Malik, and others. However, the current situation indicates that the financial and credit support for direct agricultural produce manufacturers remains at a rather low level. Hence, in our opinion, this matter requires further analysis and enhancement [21].

In general, the financial and credit servicing system comprises several components: the financial and credit infrastructure, the mechanism of credit relations with commercial banks, and the mechanism of non-banking lending. Studying and analyzing these components define the methodology for conducting this research.

The financial and credit infrastructure constitutes a complex of various financial and credit organizations united by a common goal. It encompasses commercial and cooperative banks, credit unions, agro-industrial financial groups, insurance companies, and others that serve agricultural producers, intermediaries, and end consumers of agricultural products.

In general, the financial-credit servicing system has various components: financial-credit infrastructure, the mechanism of credit relations with commercial banks, and the mechanism of non-bank lending. The study and analysis of these components determine the methodology for conducting this research.

The financial-credit infrastructure is a collection of structurally diverse financial-credit institutions united by a common goal. This infrastructure includes commercial and cooperative banks, credit unions, agro-industrial financial groups, insurance companies, and so on.

World practice proves that diversification of financial intermediation forms could be the best way to meet the aforementioned needs of producers. This can be achieved through a multichannel lending scheme, ensuring financial resources for producers from various interconnected sources. An embodiment of such a system is the creation of specialized credit cooperatives based on cooperative principles, with advantages such as being close to clients and comparatively lower costs for credit services. The development of such lending involves the emergence of credit unions and cooperative banks, where

users of their services are the owners. Financial policy in these institutions is based on cooperation principles and democratization of management, organized territorially and divided into three levels:

Local credit unions and cooperative banks interact with agricultural producers, determining the volume of credit requests, the goals and efficiency of loan utilization, repayment terms, and more.

Regional credit unions and cooperative banks provide additional services to the first level, such as developing new financial products, ensuring liquidity, currency, investment, and settlement operations.

Central credit unions and cooperative banks merge the functions of the two lower levels.

However, the creation of such credit cooperation is hindered by certain legislative shortcomings, such as the size of the minimum statutory fund, the number of cooperative bank or credit union participants, and the absence of a practice for loan repayment insurance.

Despite the rapid development of domestic lending, a significant portion of problematic issues related to financial credit support remains unresolved. This particularly concerns issues of state support, improvement of legislation regulating legal and financial credit relations in the agricultural sector, and the further development of credit institutions. Factors such as high cost of credit, increased requirements for mandatory reserves for banks, absence of reliable borrowers, lack of loan repayment guarantees, high costs of providing financial credit services, and absence of non-repayment insurance practice are among the main reasons hampering credit development [22].

3. Development of the reengineering of the management system of international companies

3.1. Functioning of the marketing system of distribution in object markets

The analysis of the commodity and geographical structure, dynamics, and effectiveness of foreign economic relations indicates the presence of a sufficient number of problems in this important direction of the country's functioning.

Despite the existing scientific developments and accumulated domestic and international experience in conducting foreign economic policy, there are several issues awaiting detailed consideration with the formulation of thoroughly reasoned recommendations for legislative and executive bodies, as well as for economic entities.

The goal of our research is to analyze the problems related to the formation and implementation of the state's foreign economic policy, offering considerations for its intensification through a wide range of marketing tools. The research object is the process of organizing the country's foreign economic activity. The subject of the study is Ukraine's export strategy, emphasizing the domestic manufacturer's market proposition of industrial products and its protection by the state in the domestic market, as well as all forms of support in foreign markets.

The theoretical foundation for managing the export strategy based on marketing principles includes the following concepts: a) expanded reproduction; b) economic cycles; c) technological paradigms; d) globalization; e) sustainable development; f) marketing mix "4 Ps".

Expanded reproduction aims to increase its scale in quantitative and qualitative terms to meet the growing consumer demands, both domestically and internationally. It encompasses all four phases of social production: production, distribution, exchange, and consumption.

For Ukraine, the extensive type of expanded reproduction is exhausted due to the continual decrease in the population, including the working-age population. As of January 1, 1993, the country's population reached its peak at 52.2 million. According to State Statistics data as of July 1, 2018, it decreased to 42.3 million.

Out of 26 million working-age individuals, only about 16 million are officially employed, which accounts for 52.6%. The low level of wages and employment issues push both highly skilled professionals and low-skilled workers to seek employment outside Ukraine, bolstering the economies of other countries (such as Poland, the Czech Republic, Germany, Italy, Spain, Canada, etc.).

The intensive type of expanded reproduction focuses on the qualitative growth of the economy, associated with its more efficient utilization in the following forms: capital-saving (advanced machinery and progressive technologies), labor-saving (reduction in labor-intensive production), resource-saving (saving materials, natural gas, electricity, etc.). Currently, the material, labor, and energy intensity indicators of domestic production exceed foreign analogs by 8-9 times.

Regarding many sectors of Ukraine's economy, it is essential to consider not only simple but also narrowed reproduction. With narrowed reproduction, production processes either significantly reduce or completely cease to operate under the pressure of more powerful competitors, particularly in the domestic market.

Worldwide and local crises have become exceptionally vulnerable to Ukraine more than ever before. The criteria used to characterize different types of crises include: a) causes of occurrence; b) manifestation mechanisms; c) duration of the cycle.

Economists are familiar with several types of economic cycles:

- Long waves, according to M. Kondratiev [23], which are characterized by radical changes in the technological (innovative) base of societal production (45-60 years).

- Kuznets cycles, or reproduction cycles, whose duration is associated with the average payback period of fixed capital elements with a relatively stable sectoral structure of the national economy (15-25 years).

- Juglar cycles, which reflect the interaction of various monetary and credit factors (7-11 years).

- Kitchin cycles, characterizing the dynamics of interest rates, wholesale prices, and the relative value of commodity-material assets in enterprises - entities of entrepreneurial activity (3-4 years).

The nature of economic cycles is changing, along with the approaches to mitigating their negative consequences. In this context, we will refer to the theoretical explanations provided by S.V. Mochernyi regarding the causes and mechanisms of cyclical fluctuations, with corresponding clarifications. Therefore, the characteristic features of economic fluctuations in recent decades are as follows:

- 1) Current crises are less profound but occur more frequently.
- 2) Instead of overproduction of goods during past crises, there is now overproduction of fixed capital (in the form of idling a significant portion of production capacities, which is typical for certain industrial sectors, such as light industry).
- 3) Previously, crises involved sharp price decreases, but in Ukraine, inflation poses a menacing threat due to the low purchasing power of the population.
- 4) Modern crises are characterized by a shorter duration of the crisis and depression phases and a corresponding increase in the recovery and upswing phases.
- 5) Unlike the spontaneous nature of past crises, contemporary economic crises are increasingly subject to regulation.
- 6) Modern crises, primarily financial ones, are distinguished by the synchronization of the economic cycle, achieved in some cases by reducing interest rates, attracting grants, and increasing lending from institutions like the IMF, World Bank, EBRD, etc., although these conditions are not always beneficial for the state and its population [24].

It's worth noting that among the indicators analyzed by M.D. Kondratiev were coal production, gold mining, lead and iron production, price indices, government securities, nominal wages, and foreign trade turnover indicators. Therefore, the analysis covered a dataset spanning 100-150 years and encompassed the production of key industrial goods, the financial and social spheres, as well as external economic relations.

Ukraine felt the impact of two main factors due to the global crisis: a sharp halt in the inflow of cheap credits from Western banks and a decline in prices for major export goods (cast iron, flat and hot-rolled products, semi-finished steel, iron ore concentrates, corn, chemical products). Consequently, the significant drop in demand for metallurgical products globally led to a substantial price decrease. The export share and currency inflow decreased significantly. Production volumes fell, prompting a surge in demand for

foreign currency. The exchange rate fluctuated between 5.6 and 8.3 UAH per \$1. A sudden outflow of deposits from banks ensued. Mortgage lending and construction ceased, causing property prices to decline. According to Forbes magazine, Ukraine was among the top 10 countries most affected by the economic crisis, with the country's GDP decreasing by 14.8% in 2009.

The global crisis had minimal repercussions for powerful European economies, undemocratic countries (North Korea and Iran), and several Asian nations. Countries less reliant on export components were least affected. Nations with strong state finances, efficient banking oversight, and flexible exchange rates were relatively untouched by the crisis. It's believed that to combat the crisis, a state should focus primarily on developing both domestic production and internal consumption.

A crisis is an inherent phenomenon in the socio-economic system. People, or more accurately, the managerial echelon of the system, are the primary actors in its functioning and development. To prevent crises, effective management of the socio-economic system is the most reliable method, whether at the enterprise, state, interstate, or supranational level.

In revitalizing entrepreneurial activities, it's prudent to implement the "4Ps" marketing mix thoughtfully, especially concerning export-oriented industrial enterprises.

Ukraine's external trade was primarily directed towards trade between the union republics before gaining independence. The share of exports to them in the total export volume reached 83%, and imports amounted to 81%. Shipments from Ukraine included machinery products (39% of the total export volume), food industry goods (16%), iron and steel (15%). The export structure to other countries consisted of coal (32% of the total export), machinery products (28%), metal products (18%), and chemical industry goods (8%) [17]

To assess the "achievements" of the Ukrainian economy and its industrial complex, let's refer to the reasoning of the renowned economist B.M. Danylyshyn. In one of his publications, he notes: "Until the moment of gaining independence, Ukraine had a developed industry by the standards of the late 20th century, ranging from the extraction of minerals and production of raw materials to high-tech sectors such as space, aviation,

and engineering. If we talk about the scale, it was relatively modest: by the end of 1991, Ukraine's share in global industrial production amounted to 0.57%, but the country undoubtedly belonged to the industrially developed ones.

Unfortunately, since then, a declining trend has been observed, which has accelerated in recent years: in 2013, Ukraine's share in global industrial production was 0.2%, in 2016 - 0.16%. The relative weight of the Ukrainian economy in the world is also declining: in 1991 - 0.36%, in 2013 - 0.17%, and in 2016 - 0.12% [25].

B.M. Danylyshyn further expresses his views regarding the key areas of machine building where efforts should be concentrated to bring Ukraine back to the ranks of industrially developed countries: aviation and rocket-space engineering, military-industrial complex, transport and agricultural machinery, and machine tool manufacturing.

However, we are not as optimistic as B.M. Danylyshyn and advocate a general scheme for the successful development of a state by interconnecting the following key system-forming elements: glorious traditions - classical education - advanced science - robust industry - efficient economy - quality of life - sustainable development. Everything starts with the state of morality within society, with the inclination either to build and progress, merely consume, or even to destruct and undermine.

3.2. Transformational provision of industrial products of international companies to international markets

Although Ukraine exported goods and services to 225 countries worldwide in 2017, the export volumes remain quite low. There are many reasons for this, but a lack of a balanced policy and institutional capacity within the state to support expansion into international markets is evident. It is necessary not only to increase exports to the EU market but also to explore promising and large-scale markets in other regions and regain lost positions in traditional markets. Table 1.2 data indicate that Ukraine consistently maintains a positive trade balance in goods only with Asian and African countries.

Consistently negative trade balances signal low competitive advantages in export sectors and a high dependency of the country's economy on imports. Such a situation leads to the devaluation of the national currency as the country loses the ability to properly pay for imports [26, 27].

The Export Strategy, oriented toward changing the state's policies in the global economy, is a crucial component and an extension of the Sustainable Development Strategy "Ukraine-2020". Through its implementation, the growth rate of goods and services exports is targeted to reach 10% annually. The share of high-tech goods in the total export volume is expected to increase from 17.3% in 2016 to 27.0% in 2021.

Таблиця 1.2

Table 3.1 Dynamics of the balance of foreign trade in goods by geography, 1996–2017, \$ billion. [17]

| Regions | 1996 | 2005 | 2010 | 2012 | 2014 | 2017 |
|-----------------------------|-------|-------|-------|--------|-------|-------|
| EU | -1,20 | -1,78 | -6,16 | -10,13 | -5,26 | -5,02 |
| Asia | +2,22 | +3,76 | +3,70 | +0,54 | +4,50 | +2,29 |
| Africa | +0,07 | +1,98 | +2,14 | +4,79 | +4,42 | +3,33 |
| America | -0,13 | +0,5 | -0,87 | -1,85 | -2,65 | -2,41 |
| Australia and Oceania | -0,01 | -0,09 | -0,23 | -0,15 | -0,16 | -0,07 |
| In total | -3,20 | -1,85 | -9,38 | -15,94 | -0,53 | -6,34 |

The primary component of a company's marketing complex when entering foreign markets is the product/service. Ukraine's technological gap from economically developed countries is not narrowing but rather deepening. Various organizational structures for innovative development (business incubators, venture funds, innovation and technology

centers, scientific and technological parks, industrial clusters, technopoles, etc.) largely exist formally without proper efficiency.

There is a significant need for mechanisms to stimulate innovation activities, their participants with adequate funding, provision of necessary marketing and engineering services – from the innovation idea (novelty) to the final product, its servicing, and disposal.

It is crucial to create favorable conditions to ensure effective collaboration between educational institutions, primarily research and entrepreneurial types, and businesses following the scheme: education-science-production-export.

Marketing technologies for promoting domestic products on international markets need to be used much more effectively. There are plans to increase the awareness of exporting enterprises regarding projects supporting and developing activities in the innovation sphere through the dissemination of relevant information on the export web portal. The e-commerce infrastructure requires significant development, along with utilizing e-governance services.

Considerable attention should be devoted to establishing an analytical-information support system for decision-making based on information technology using the mechanism of trade protection. The PEST analysis complex and its variations (PESTEL, PESTELI, STEEP, and LONGPEST) can be an effective tool in this context.

Issues related to summarizing and disseminating information about international markets, procedures, and conditions for accessing them for goods, works, and services, distribution channels, customs procedures, regulatory framework, potential consumer needs, standards, technical regulations, export-import operation specialization, etc., should be brought into focus.

This encompasses both traditional partner markets and new promising markets, especially countries in Asia and Africa. The "Silk Road Economic Belt" project aimed at further developing innovative cooperation between Ukraine and China in priority areas (aviation, energy, transportation, mechanical engineering, etc.) is particularly relevant.

Expanding the participation of potential exporters in exhibitions and fairs, intensifying trade missions in partner countries, and implementing a series of measures to promote the branding of export products on international markets is worthwhile [17].

The key to success in conducting export operations lies in a fully functional institutional structure effectively supporting them. Exporters place particular hope in the support of their activities from the Office for Export Promotion at the Ministry of Economic Development and Trade (MEDT), the Exporters and Investors Council at the Ministry of Foreign Affairs of Ukraine, the Interdepartmental Commission on International Trade, the Export Credit Agency (ECA), as well as non-banking credit and financial institutions. Departments of economic affairs in embassies and other Ukrainian diplomatic missions abroad should also operate more effectively.

The strategy has identified the most promising sectors of the economy for exporting goods and services abroad. The selection of sectors was made based on a complex set of quantitative and qualitative criteria, considering resource constraints. The chosen economic sectors of the country have been grouped into three clusters. The first cluster includes aerospace sector enterprises. The second cluster encompasses tourism and creative industries sectors. The third cluster unites enterprises engaged in processing raw materials into high value-added products [28].

This also concerns the compliance with a set of conditions and key principles of management, particularly regarding the personal responsibility of all participants, from MEDT leaders to specific implementers of the strategy's activities. Achieving the expected results should be facilitated by a stringent control system for implementing the "roadmap" measures, adhering to set deadlines, efficiently utilizing engaged resources, and employing effective motivation methods.

The crisis in the national economy, underdevelopment of the domestic market, and the low purchasing power of the population hinder export activities. Only a strong economy allows for successful export policy, not based on raw resources but on producing high-value-added goods. Increasing the role of engineering work would positively impact the creation of new types of products. The restoration of the Ministry of Industrial Policy would contribute to strengthening the export potential.

It's expedient to expand cooperative ties with powerful multinational corporations, consolidate positions in traditional sales markets, explore spheres of influence in new markets by effectively employing the 4 "Ps" marketing complex. Matters related to providing information for enterprises in international markets and assessing the competitive potential of business partners deserve particular attention.

The export strategy should become an integral part of the country's economic security. Creating a proper mechanism of responsibility (both moral and material) for all involved in initiating, developing, discussing, approving, implementing, and monitoring the execution of adopted decisions remains an ongoing relevant issue.

In the conditions of societal transformations, industrial enterprises are not only a crucial element of the national economy but also a powerful source of economic growth for both the specific sectors in which they operate and the country as a whole. The current state of development of industrial enterprises in the cement industry in Ukraine is determined by integrative and transformational processes, resulting in the variability and uncertainty of their operating environment.

The primary factor in choosing crisis management tools for the activities of industrial enterprises should be the consideration of the specificity of their operations, which requires an analysis of the industry conditions under which these enterprises function. The United Nations considers the cement industry as one of the crucial components that characterizes a country's level of development. However, in 2021, the share of the cement industry in Ukraine's GDP was 2.3%, which was one of the lowest among European countries. In neighboring Poland, this share was 9%, in Germany and France - 7.8%, and in the USA - 5.6%. Moreover, global cement production volumes increase annually (Table 3.2). Leading cement enterprises worldwide produce over 4 billion tons of cement per year.

Rapid growth in the demand for cement products primarily occurs in emerging industrial countries. For example, cement production in China doubled over the last decade – in 2008, it was 1.39 billion tons, and by 2021, it reached 2.4 billion tons, accounting for 57.14% of global cement production. India also holds a significant share in global cement production (6.67% in 2017), along with the United States (2.05%) and Turkey (1.83%). Ukraine's share in global cement production is only 0.22% (Statista) [17].

Table 3.2-Dynamics of global cement production (generated by the author based on data (CEMBUREAU, Statista))

| Country | Volume of cement production, million t | | | | | | | | | |
|-----------------|--|---------------|---------------|---------------|--------------|--------------|--------------|--------------|-------------|-------------|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2021 |
| China | 1388,4 | 1644 | 1881,9 | 2063,2 | 2 210 | 2 420 | 2 480 | 2 350 | 2 410 | 2 400 |
| India | 185 | 205 | 220 | 240 | 270 | 280 | 260 | 270 | 290 | 280 |
| USA | 86,3 | 63,9 | 65,2 | 68,6 | 74,9 | 77,4 | 83,2 | 83,4 | 85,9 | 86,3 |
| Turkey | 51,4 | 54 | 62,7 | 63,4 | 63,9 | 71,3 | 75 | 77 | 77 | 77 |
| Indonesia | 38,5 | 36,9 | 39,5 | 45,2 | 32 | 56 | 65 | 65 | 63 | 66 |
| Saudi Arabia | 37,4 | 37,8 | 42,5 | 48 | 50 | 57 | 55 | 55 | 61 | 63 |
| South Korea | 51,7 | 50,1 | 47,4 | 48,2 | 48 | 47,3 | 63,2 | 63 | 55 | 59 |
| Russia | 53,5 | 44,3 | 50,4 | 56,1 | 61,5 | 66,4 | 68,4 | 69 | 56 | 58 |
| Brazil | 51,6 | 51,7 | 59,1 | 63 | 68,8 | 70 | 72 | 72 | 60 | 54 |
| Japan | 67,6 | 59,6 | 56,6 | 56,4 | 51,3 | 57,4 | 53,8 | 55 | 56 | 53 |
| Mexico | 37,1 | 35,1 | 34,5 | 35,4 | 35,4 | 34,6 | 35 | 40 | 40,8 | 40,2 |
| Germany | 33,6 | 30,4 | 29,9 | 33,5 | 32,4 | 31,3 | 32 | 31 | 32,7 | 32,9 |
| France | 21,2 | 18,1 | 18 | 19,4 | 18 | 18 | 16 | 16 | 15,9 | 15,8 |
| Italy | 43 | 36,3 | 34,4 | 33,1 | 26 | 23 | 21 | 21 | 19,3 | 20,4 |
| South Africa | 13,4 | 11,8 | 10,9 | 11,2 | 14 | 15 | 14 | 14 | 13,6 | 13,8 |
| Ukraine | 14,8 | 9,4 | 9,2 | 10,5 | 10 | 10 | 9 | 8 | 9 | 9,4 |
| Others | 667,50 | 654,4 | 688,5 | 716,5 | 668,8 | 702,2 | 795,4 | 811,2 | 854,8 | 771,2 |
| In total | 2842 | 3042,8 | 3350,7 | 3611,7 | 3 735 | 4 036 | 4 198 | 4 100 | 4200 | 4200 |

Zement industry is resource-intensive, hence domestic cement enterprises are typically situated in areas where raw materials are extracted. According to 2021 statistics,

the main cement producers were as follows: Krivyi Rih Cement and Kamianske Cement Plants – owned by the German corporation Heidelberg Cement (market share – 13.4%); PJSC Podilsky Cement, PJSC Mykolaiv Cement, and LLC Cement – owned by the Irish holding company Cement Roadstone Holdings (market share – 27.9%); PJSC Eurocement-Ukraine – owned by the Russian industrial holding Eurocement Group (market share – 11.8%) and holds the largest production capacity among Ukrainian plants – 4,050 thousand tons per year; branches of PJSC Dyckerhoff Cement Ukraine, PJSC Volyn-Cement, and PJSC Pivdencement – owned by the German company Dyckerhoff (market share – 18.5%), which is part of the Italian conglomerate Buzzi Unicem; PJSC Ivano-Frankivsk Cement – owned by the Swiss company Cem In West SA, was the largest enterprise by production volume in 2017 – 2,406 thousand tons of cement (market share – 22.6%); PP Kyiv-Resource – a Ukrainian company (market share – 2.9%). The combined share of these enterprises in 2021 accounted for 97.1% of the total production volume. The consolidated share of other companies in production was 2.9% [17].

From the perspective of the number of sellers in the market, cement production is oligopolized due to objective barriers such as the need for significant investments in creating and modernizing production, the costliness of the production process itself, and a substantial payback period for invested capital. It is noteworthy that the cement industry in Ukraine has the characteristic of foreign capital dominance in the ownership structure of cement enterprises. The only companies with national capital are PJSC Ivano-Frankivsk Cement and State Enterprise Kharkiv Research Cement Plant. The interest of foreign investors primarily in the raw material and primary processing sectors is evidenced by the dynamics of investments in these areas. However, even foreign investments in the functioning and development of cement production did not lead to its widespread modernization.

Ukraine saw a rapid increase in the share of cement imports during the period from 2015: compared to 2015, in 2016, this share increased by 40.87%, and in 2021, compared to 2016, it rose by 987.19% (Table 3.3). This surge in imports was primarily caused by a significant increase in the volume of imported cement from Belarus (in 2021 compared to 2016, it increased by 52 times), the share of which accounted for 80.91% in the import

structure. Moreover, cement from Belarus was imported into Ukraine at dumping prices, which led to the forced restraint of price increases by domestic manufacturers and subsequently resulted in a decline in the financial performance of their operations [17].

Table 3.3-The structure of domestic cement imports in 2014-2021 (formed by the author based on data [31])

| Country | Years | | | | | | | | Growth rate, % | | |
|-----------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|----------------|--------------|---------------|
| | 2014 | | 2015 | | 2016 | | 2021 | | 2015 / 2014 | 2016/ 2015 | 2021/ 2016 |
| | thousand tons | % | thousand tons | % | thousand tons | % | thousand tons | % | | | |
| Turkey | 39,97 | 79,72 | 25,26 | 86,83 | 30,26 | 73,84 | 32,1 | 7,20 | -36,80 | 19,79 | 6,08 |
| Belarus | 2,3 | 4,59 | 1,03 | 3,54 | 6,91 | 16,86 | 360,47 | 80,91 | -55,22 | 570,87 | 5116,64 |
| Moldova | 3,78 | 7,54 | - | 0,00 | 0,33 | 0,81 | 44,04 | 9,88 | - | - | 13245,45 |
| Slovakia | 0,73 | 1,46 | 1,21 | 4,16 | 1,29 | 3,15 | 1,34 | 0,30 | 65,75 | 6,61 | 3,88 |
| Poland | 0,85 | 1,70 | 0,57 | 1,96 | 0,94 | 2,29 | 1,15 | 0,26 | -32,94 | 64,91 | 22,34 |
| Germany | 0,6 | 1,20 | 0,35 | 1,20 | 0,54 | 1,32 | 1,04 | 0,23 | -41,67 | 54,29 | 92,59 |
| Others | 1,91 | 3,81 | 0,67 | 2,30 | 0,71 | 1,73 | 5,39 | 1,21 | -64,92 | 5,97 | 659,15 |
| In total | 50,14 | 100 | 29,09 | 100 | 40,98 | 100 | 445,53 | 100 | -41,98 | 40,87 | 987,19 |

Regarding the import of cement clinker, the majority of its imports to Ukraine came from the Russian Federation (85.45% in 2017). In 2021, compared to 2016, the import of cement clinker increased by 79.19% to the level of 877.69 thousand tons. As a result, based on Resolution No. 670 dated August 29, 2018, the Cabinet of Ministers of Ukraine included cement clinker in the list of goods prohibited from being imported into the territory of Ukraine [29]. Furthermore, domestic enterprises have production capacities to substitute imported clinker with their own production: according to the Association "Ukrcement," the production capacities for clinker burning at Ukrainian enterprises

amount to 15 million tons, while in 2017, only 6.3 million tons of clinker were actually produced by them [30].

The main export markets for Ukrainian cement in 2021 were among the CIS countries, namely Belarus (20.6% of the total export volume in natural form) and Moldova (13.64%), while among other countries were Romania (40.66%) and Hungary (23.34%). It's worth noting that from 2008 to 2017, the share of exports to CIS countries in the structure of Ukrainian cement exports decreased from 92.36% to 34.2%. This decrease was due to the cessation of cement supplies to the Russian Federation and an increase in export volumes to European countries. Romania emerged as the leader in export volume growth, increasing by 959 times in natural form.

Therefore, to ensure effective crisis management of industrial enterprises, the following specifics of their functioning in the cement industry should be considered:

- Dependency of the operation and development of cement production on the state and dynamics of the construction industry.

- Oligopolized cement production, requiring significant capital investments to enter the industry; dominance of foreign investments in the capital structure of domestic enterprises (with limited funding for the renewal of outdated production facilities due to a clear market share distribution and lack of investor perspectives for significant domestic market growth).

- High energy consumption in cement production and the associated high energy consumption of waste, posing significant environmental burdens (with substantial dependence on fuel and energy resources, both in terms of pricing and limitations for production, due to programs aimed at enhancing national energy security).

- Monoproduct nature of cement production and dependence on resource provision, which dictates the sales policies of industry enterprises concerning product price, quality, and consumer service level (while facing resource supply losses due to military-political events in 2014-2016 in Donbas and Crimea).

- A significant portion of transportation costs in the cost structure of input resources and, accordingly, in the cost structure of finished products (alongside logistic disruptions in supplying raw materials and finished products by rail transport).

- Issues with state regulation of cement import at dumping prices, posing threats to the operations of domestic enterprises, among others.

Consequently, the main instrument for crisis management in the cement industry, aimed at preparing for adverse events, should be the Business Continuity Plan (BCP). Ensuring readiness for unfavorable events through BCP is vital, as it encompasses all enterprise operational risks and coordinates internal and external actions, including interactions with market entities, by organizing reflexive impacts. BCP regulates personnel actions in case of crises, directs efforts towards minimizing adverse consequences, accelerating recovery, and reducing losses. Organizing reflexive impacts within the crisis management system allows senior management of industrial enterprises to make decisions regarding goals, principles, and management mechanisms that ensure the most effective and prompt development of BCP and actions involving reflexive impacts towards the participants involved in crisis processes within its implementation [17].

Conclusions

Researching the role of potential in the operations of industrial enterprises during the radical redesigning of business processes is a pertinent task in the current stage of developing productive forces. This is because the development of elements within the third and fourth industrial revolutions influences the marketing efforts of industrial enterprises. Consequently, there is a necessity to employ change management methods, such as business process reengineering, in the operations of industrial enterprises aiming for a significant enhancement of economic efficiency in their business activities.

Among the main reengineering initiatives in the marketing sphere of manufacturing companies, the following should be highlighted:

- Implementation of flexible and progressive methods for swiftly adopting new types of products demanded by marketing requirements, both in terms of assortment and technological advancement.

- Adaptation of regulatory documents related to development, manufacturing, and quality control to comply with existing international industry standards, including restructuring and production links accordingly.

- Introduction of new operational connections in production processes to achieve maximum operational efficiency, focusing on the end result.

- Cultivation of corporate awareness among involved employees, emphasizing the maximization of their potential and expanding the scope of influence and responsibility.

- Implementation of progressive organizational forms within enterprises to redesign existing functional connections, aiming to eliminate bureaucratic and formal obstacles in promptly meeting the needs of the end consumer (product).

One of the key directions for the successful implementation of business process reengineering is its institutional support. It's important to note that in conditions of an unstable economy and an extremely challenging political environment in the country, support from the state towards the industrial complex is highly necessary and should be reflected in the overall country's development strategy. Therefore, researching the institutional support for reengineering the marketing sphere of industrial enterprises is

essential for implementing the policy of promoting domestic products in international markets.

The exploration of scientific and applied aspects in the implementation of business processes within the marketing sphere of industrial enterprises enables the incorporation of benchmarking elements from studies on radical transformations in companies across various sectors of the country's industrial complex. This allows for the identification of advanced practices in implementing business process reengineering by domestic industrial enterprises and the formulation of a map for the successful execution of business process reengineering based on the experiences of companies that have already undertaken it.

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