MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

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Department of International Economic Relations

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MASTER'S LEVEL QUALIFICATION PAPER

on the topic: «IT services market as the international business sphere»
Specialty 292 «International Economic Relations»

Student II course, group ME.m-01a.an _____ Mykhailo Holota
(course number) (group's code) (signature) (full name)

Applied for a master's degree.

The qualification work of the master contains the results of own research. The use of ideas, results and texts of other authors have references to the relevant source.

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Professor, Doctor of Economics _____ Fedir Zhuravka
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Sumy – 2021

SUMMARY

of Master's level degree qualification paper on the theme
«IT SERVICES MARKET AS THE INTERNATIONAL BUSINESS SPHERE»
student Mykhailo Holota
(full name)

The content of the qualification work is presented on 39 pages, including a list of used sources of 28 titles, placed on 3 pages. The work contains 2 figures.

Key words: IT, SOFTWARE DEVELOPMENT, INFORMATION TECHNOLOGY, DIGITAL INDUSTRY, IT SERVICES.

The purpose of this work is to analyze the IT services market as a business sphere, its impact on the global economy, the place of the sphere of information technologies in the world economy, research of the information technologies market in Ukraine as a component segment of the world market.

The object of the study is the IT services market as one of the fastest-growing sectors of the economy of Ukraine and the world.

The subject of the study is theoretical bases and predictions about the future of IT services in Ukraine and in the world.

To achieve this goal, the following methods were used: statistical methods of currency market analysis in Ukraine, comparison methods etc.

The information base of the qualification paper is scientific publications, monographs of foreign and Ukrainian economists, scientific websites etc.

The main scientific results are as follows:

1) The author of the diploma work investigates the IT services market as the international business sphere;
2) Research the information technologies market in Ukraine as a segment of the world market;

3) Analysis problems and prospects of IT services market development.

The obtained results can be used by the Ukrainian government during the formation of management policy to improve the information technology service market.

Year of qualification work – 2021.

Year of protection of work – 2021.

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«__» _____2021.

TASKS FOR MASTER'S LEVEL DEGREE QUALIFICATION PAPER
(specialty 292 "International Economic Relations")
student II course, group ME.m-01a.an
(course number) (group's code)

Mykhailo Holota
(student's full name)

1. The theme of the paper: «IT services market as the international business sphere» approved by the order of the university from « __ » _____ 20 __ №___

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4. The object of the study is the IT services market as one of the fastest growing sectors of the economy of Ukraine and the world.

5. The subject of the study is theoretical bases and predictions about the future of IT services in Ukraine and in the world.

6. Approximate master's level degree qualification paper plan, terms for submitting chapters to the research advisor and the content of tasks for the accomplished purpose are as follows:

Chapter 1 Theoretical aspects of information technology development in the international market

Date of submission: November 19, 2021.

Chapter 1 deals with: Investigates the theoretical foundations of information technology development in the international market.

Defines the place of the sphere of information technologies in the world economy.

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

Chapter 2 Research of the information technologies market in Ukraine as a segment of the world market.

Date of submission: November 30, 2021.

(title, the deadline for submission)

Chapter 2 deals with: The current state of the information technology market in Ukraine.

Investigates directions of development of information technologies of products and services Ukraine on the world market.

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

Chapter 3 Problems and prospects of IT services market development

Date of submission: December 04, 2021.

(title, the deadline for submission)

Chapter 3 deals with: Defines problems of IT services market development.

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

7. Supervision on work:

Chapter	Full name and position of the advisor	Date, signature	
		task issued by	task accepted by
1	Professor, Doctor of Economics Fedir Zhuravka		
2	Professor, Doctor of Economics Fedir Zhuravka		
3	Professor, Doctor of Economics Fedir Zhuravka		

8. Date of issue of the task: « ___ » _____2021

Research Advisor: _____ Fedir Zhuravka

(signature) (full name)

The tasks have been received: _____ Mykhailo Holota

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CONTENT

Introduction

In a relatively short period of time, the field of information technology from an ordinary, sometimes secondary industry, has become one of the main drivers of the world economy, becoming a catalyst for tectonic changes and transformations in many other industries.

The emergence of a large number of companies in the field of information technology, their rapid development in recent years, and growing consumer attention to IT services necessitates scientific and theoretical developments in the analysis of information technology market and preparation of practical recommendations.

Demand for IT services is now at a record high and even exceeds the supply in the market. In the last year, it has increased by 11% worldwide. The rapid growth in demand for IT solutions increases the need for skilled IT engineers. According to a study by Evans Data, there are already more than 24.5 million IT professionals in the world, which is 500 thousand more than last year. Despite this, the IT industry lacks engineering talent. According to the consulting company Korn Ferry, by 2030 the shortage of specialists in key areas in the world could reach 85.2 million, of which more than 4 million - in the IT industry.

Meanwhile, the development of the IT industry in Ukraine, which is mostly represented by service (outsourced) IT companies, significantly ahead of the average pace of development of the segment in the world.

The purpose of this work is to analyze the IT services market as a business sphere, its impact on the global economy, the place of the sphere of information technologies in the world economy, research of the information technologies market in Ukraine as a component segment of the world market.

The objectives of the study is the IT services market as one of the fastest growing sectors of the economy of Ukraine and the world, finding a mechanism for regulating the global information technology market, reflection of directions of development of the international market of information technologies.

The subject of the study is theoretical bases and predictions about the future of IT services in Ukraine and in the world.

To achieve this goal, the following methods were used: statistical methods of currency market analysis in Ukraine, comparison methods etc.

1. THEORETICAL ASPECTS OF INFORMATION TECHNOLOGY DEVELOPMENT IN THE INTERNATIONAL MARKET

1.1. IT services market

The global information technology industry is on pace to reach $5.4 trillion in 2021, according to the research consultancy IDC. The enormity of the industry is a function of many of the trends discussed in this report. Economies, jobs, and personal lives are becoming more digital, more connected, and more automated. Waves of innovation build over time, powering the technology growth engine that appears to be on the cusp of another major step forward.

The United States is the largest tech market in the world, representing 32% of the total, or approximately $1.8 trillion for 2021. In the U.S., as well as in many other countries, the tech sector accounts for a significant portion of economic activity. CompTIA's Cyberstates report reveals that the economic impact of the U.S. tech sector, measured as a percentage of gross domestic product, exceeds that of most other industries, including notable sectors such as retail, construction, and transportation.

Despite the size of the U.S. market, the majority of technology spending (68%) occurs beyond its borders. Spending is often correlated with factors such as population, GDP, and market maturity.

Among global regions, western Europe remains a significant contributor, accounting for approximately one of every five technology dollars spent worldwide. However, as far as individual countries go, China has clearly established itself as a major player in the global tech market. China has followed a pattern that can also be seen in developing regions, where there is a twofold effect of closing the gap in categories such as IT infrastructure, software, and services, along with staking out leadership positions in emerging areas such as robotics.

The bulk of technology spending stems from purchases made by corporate or government entities. A smaller portion comes from household spending, including

home-based businesses. With the blurring of work and personal life, especially in the small business space, along with the shadow IT phenomenon, it can be difficult to precisely classify certain types of technology purchases as being solely business or solely consumer.

Figure 1.1 - IT service market - Growth Rate by Region (2016-2021)

CompTIA projects the global information technology industry will grow at a rate of 3.8% in 2021. The optimistic upside forecast is in the 5.4% range, with a downside floor of 1.9%. Growth expectations for the U.S. market are in line with the global projection. As the largest tech market in the world, U.S. forecasts and global forecasts are inextricably linked. This is a narrower forecast range than what has been seen in past years, meaning industry executives are exercising a relatively high degree of caution in an unpredictable environment.

There are a number of taxonomies for depicting the information technology space. Using the conventional approach, the industry market can be categorized into five top-level buckets. The traditional categories of hardware, software, and services account for 56% of the global total. The other core category, telecom services, accounts for 26%. The remaining 17% covers various emerging technologies that either don’t fit into one of the traditional buckets or span multiple categories, which

is the case for many emerging ‘as-a-service’ solutions that include elements of hardware, software, and service, such as IoT, drones, and many automating technologies.

1.2 The place of the sphere of information technologies in the world economy

Information technology (IT) is a class of areas of activity that belong to the technology of management and processing of a huge flow of information using computer technology. [14, p.197]

According to the definition adopted by UNESCO, information technology is a set of interconnected scientific, technological, engineering sciences that study methods of effective organization of work of people engaged in processing and storage of information using computers and methods of organization and interaction with people and production equipment. their practical applications, as well as related social, economic and cultural issues. international information technology market.

The international information market is a system of economic, organizational and legal relations for the sale, purchase and distribution of information resources, technologies, products and services.

The market of information technologies is quite young compared to the market of industry and markets of goods and services. It began to develop actively around the mid-80's of the twentieth century, and this is primarily due to the technological development of all spheres of production. It was at this time that the leading companies today were born. [8, p.134]

The European Center for Information Technology Research has proposed segmentation of the global information technology market, which includes hardware (computer equipment), software, computer and information services.

The international market of information technologies in terms of turnover and growth rates in most developed countries is far ahead of the market of material products and services. The market of information technologies is a sphere of

commodity exchange, where the relations connected with process of purchase and sale arise and are realized, and there is a concrete activity on the organization of movement of information products from manufacturers to consumers.

The information technology market is being transformed towards an orientation towards IT services, with a significant part of these services being provided from developed countries. In contrast to manufacturing industries, where the international division of labor has already developed, the geographical distribution of the information technology industry is not yet complete. The information technology market is the most dynamic.

Modern material production and other areas of activity are increasingly in need of information services, processing a huge amount of information. A universal technical means of processing any information is a computer, which plays the role of an amplifier of the intellectual capabilities of man and society as a whole, and communication tools that use computers are used to communicate and transmit information. The emergence and development of computers is a necessary component of the process of informatization of society.

Informatization based on the introduction of computer and telecommunications technologies is a reaction of society to the need for a significant increase in productivity in the information sector of social production, where more than half of the working population is concentrated. For example, in the information sphere of the USA more than 60% of the able-bodied population is employed, in the CIS - about 40%.

Modern information technologies with their rapidly growing potential and declining costs open up great opportunities for new forms of work and employment in both individual corporations and society as a whole. The range of such opportunities is significantly expanded - innovations affect all spheres of human life, family, education, work, geographical boundaries of human community, etc. Today, information technology can make a crucial contribution to strengthening the relationship between productivity growth, output, investment and employment. New

types of services distributed through networks provide an opportunity to create many jobs, as evidenced by the practice of recent years.

A special place in the organization of new information technologies is occupied by a computer, which creates ample opportunities for the accumulation of necessary information (recording in memory of abstracts of books, articles, reports, research results), providing analytical processing of large data sets, sending information and storing it. electronically. [17, p.10]

Examples of new information technologies are e-mail systems, facsimile systems and data networks. E-mail has already become a common type of information service, capable of significantly displacing traditional mail.

Another example is databases, which also owe their creation to a computer capable of digitally storing large amounts of information. these. The computer with the help of the corresponding software allows to operate the necessary information which is in its memory, to present it in the necessary form and sequence.

Until the early 1980s, information technology was represented mainly by large computers and was used for the needs of only half of the corporate "pyramid", because due to their high cost it was impossible to automate the solution of various management tasks. The automation of repetitive information processing was compared to the automation of manual labor based on the use of machines that replaced humans. Automation of jobs at the lower levels of the administrative hierarchy has led to a reduction in the size of enterprises, but at the same time has not caused drastic changes in the overall model of the organization to promote stable socio - economic development; on the contrary, the facts showed that their role in increasing productivity, shaping patterns of consumer behavior focused on new goods and services, creating new jobs in the field of information technology compared to the loss of jobs in industries - consumers of their products, was in generally insignificant for work.

Information technology penetrates both professional activities and private life. They affect the international trade balance, employment rates, policies. As the

information society develops, there is a powerful information technology industry designed to meet the needs of this society. The information technology industry generates new types of information product and means of its delivery to consumers.

An information product should be understood as various aspects of knowledge, information, works of art, other forms of information and entertainment, obtained both in traditional ways and with the help of electronic technology.

Information technologies are particularly pronounced in the integration of numerous sectors of the economy, such as publishing, office equipment, computers, telecommunications systems and household appliances, which until recently, although interconnected, were insignificant. Information technology stimulates the development and strengthening of this connection.

In general, modern information technology is aimed at increasing the level of automation of all information processes, which is the basis for accelerating the pace of scientific and technological progress. Information technology allows you to effectively combine different technical capabilities of computer technology, telecommunications, computer science. They are aimed at collecting, accumulating, analyzing and delivering information to consumers (scientists, engineers, managers, doctors, economists) regardless of the distance to sources and volumes, to automate monotonous management operations and prepare analytical information for decision making.

Widespread use of modern information technology in the organization provides:

- prompt access to the most remote sources of information, including sources of the external environment;

- high-quality electronic communication, which is the best and fastest approach to the ideal;

- creation of opportunities of vertical and horizontal interrelation of administrative activity of all links of managers of the enterprise;

- the functioning of a single information environment of the organization, which will cover multifunctional activities in a single complex [14, p. 106-107].

Informatization based on the introduction of computer and telecommunications technologies is a reaction of society to the need for a significant increase in productivity in the information sector of social production, where more than half of the working population is concentrated. For example, in the information sphere of the USA more than 60% of the able-bodied population is employed, in the CIS - about 40%.

For example, the US information market was formed in the 60-70s of the twentieth century. Its development was greatly facilitated by the fact that the United States has traditionally developed a private sector. The state pays considerable attention to the development of the system of scientific and technical information, as evidenced by the materials of the International Conference on Scientific Information from 1958. Since 1977, the US Congress has passed more than 300 pieces of legislation on information activities. The scientific government of the US federal government includes about 2,500 information centers and libraries. Private sector scientific information bodies include information centers in large industrial firms, special libraries and information firms that provide various types of information services exclusively on a commercial basis [11, p.216-217].

The so-called independent "non-profit" institutions play an important role in the US information market. They carry out research on behalf of other institutions, including US ministries and agencies. To do this, "non-profit" institutions that form their own highly efficient centers of scientific and technical information, which prepare analytical reviews and development forecasts, provide information services in other areas. formation market. Some "non-profit" institutions are engaged exclusively in information activities.

The use of databases for information retrieval in the mode of interactive teleaccess is provided by specialized databases. High-speed data transmission

networks, mainly via the Internet, are used for teleaccess to these data banks. Some data center centers not only rent them out, but also ensure that they are used by users.

Database search is performed from terminals and personal computers via telecommunication channels. The search takes an average of 10-15 minutes, its cost - 8-10 dollars. The United States, like other developed countries, has a tendency to merge scientific and technical information systems with libraries and their networks. In the United States there are about 29.5 thousand scientific, special, university and public libraries, 18 large regional library networks, each of which unites up to 300 or more libraries [18, p.219-220].

In the US information market, the system of publishing and printing production plays an important role. In the United States, more than 10,000 titles of magazines and 15-20,000 new books are published annually. Due to the use of computers and other means of information technology in publishing houses and printing houses, an increasing number of newspapers, magazines, directories and other publications are published not only in print but also in electronic form in the form of full-text databases for use.

According to experts, revenues from the sale and lease of databases are growing by 28% annually.

This growth is stimulated by the following factors:

- expansion of telecommunication networks for data transmission and teleaccess to internal information resources;

- introduction of new equipment for making and delivering copies of documents to users, including on optical disks.

In the United States, more money is spent on creating and using databases than in any other country: it is here that the world's major automated information retrieval centers have been established, storing about two-thirds of all databases available for free use. Not less than 50% of all information searches conducted by scientists and specialists in Western Europe are carried out in American centers [15, p. 234-235].

These processes are of great concern to the countries of Western Europe due to the growing information dependence on the United States, the process of squeezing these countries out of the global information market. Therefore, the development of the information industry in Western Europe is one of the priority political and economic tasks.

The international information technology market is constantly replenished with new software and hardware products. Technological tools based on the concepts of artificial intelligence (genetic algorithms, artificial neural networks and neurocomputers, data visualization methods, etc.) are widely used. The criterion for the development of information technology was to improve the quality of information services for the entire population of the planet.

2. RESEARCH OF THE INFORMATION TECHNOLOGIES MARKET IN UKRAINE AS A SEGMENT OF THE WORLD MARKET

2.1 The current state of the information technology market in Ukraine

A key factor in the formation of profits in the modern economy is the development of technologies and their active implementation in all spheres of life.

Previously the country's development strategy, which aims to achieve economic growth, must be built around the application of information technology and knowledge. Today, the wrong countries are not having many natural resources and factories, and those that use the latest digital technologies. [6, p.13]

The modern economy of any developed country is impossible to imagine without a relatively new, but such, a rapidly evolving industry, namely information technology (IT). The latter is structural part of information and telecommunication technologies (ICT), which together with the media, form technology, media and telecommunications market (TMT). Table 1 shows the structure and percentage contribution of structural elements. The information industry or the IT industry is known large-scale production of information goods and services of various types on the basis of the latest information technology: from newspapers, magazines and books to computer games and information filling networks.

The number of specialists in Ukraine increased by 16% last year and in 2021 exceeded 213 thousand. Exports of IT services are also growing - it brought more than $ 5 billion to the Ukrainian economy in 2020, and became the largest category of exports of services in the country with a share of 8.3%. In total, in the period 2016-2020, thanks to IT, Ukraine received more than $ 16 billion in exports to the country. Yes, the contribution of IT is growing every year and helping the country to strengthen its position in the global technology market.

Information and communication technologies cover a set of information and communication technical means and methods of data collection, processing and transmission for obtaining information of a new quality about the state of an object,

process, phenomenon to create a new or conversion of available information for its analysis or improved human perception and making decisions based on it to perform certain actions. Information and communication

The market consists of two interconnected clusters - telecommunications (TC) and industries information technology (IT), which can be considered as separate markets, although closely interconnected.

Information technology is a tool for the development of the modern economy, its accelerator. [13, p.94]

Being relatively new, it became the basis for building a digital economy. This industry did possible emergence of new products and services and increases value added already available.

Each of the four industrial revolutions occurred as a result of the emergence of a certain key technology. So for the first (industrial capitalism) the key technology became use of steam energy, for the second (mass production) - the use of electricity, for third (production automation) - the use of computers and code.

The industry is called the digital economy industry (the economy in which the most valuable virtual (non-physical) assets and transactions). Here the key technologies are information and data, a highly productive ecosystem of data collection, analysis and application has been formed.

The transformation of key assets of each industry took place:

- Resources and territory;
- Means of production;
- Brand;
- Information.

Key production tools have also undergone fundamental changes: machine → conveyor → electronics and computers → cyber-physical systems.

The first three industries have achieved speed through the introduction of new technologies production while reducing the cost of production. The fourth is

significantly different from previous increase in the value of intangible assets relative to tangible. In particular the market of services is actively developing.

The market of services in each year makes an increasingly significant contribution to the GDP of each of the developed countries in the world .. In particular, in the United States this share reaches 80%.

According to the State Statistics Service, the percentage of branches of economic activity was:

- Share of agriculture, forestry and fisheries - 10.23%;
- Share of industry - 23.99%;
- Share of services - 65.78%.

The predominant influence of the service sector and its product in the economies of developed countries continues with grow every year.

Although the largest share in the service sector in Ukraine belongs to transport, warehousing economy, postal and courier activities, but the highest growth rate in recent years services related to the processing and transmission of information have been observed for twenty years. Given the scale of added value in the field of information and telecommunications technologies, this area of human activity has grown into a powerful industry. Characteristic of IT- industry is that it does not rely on the means of production, but on information that in a post-industrial society has a much higher value than raw materials, agricultural products economy or industry.

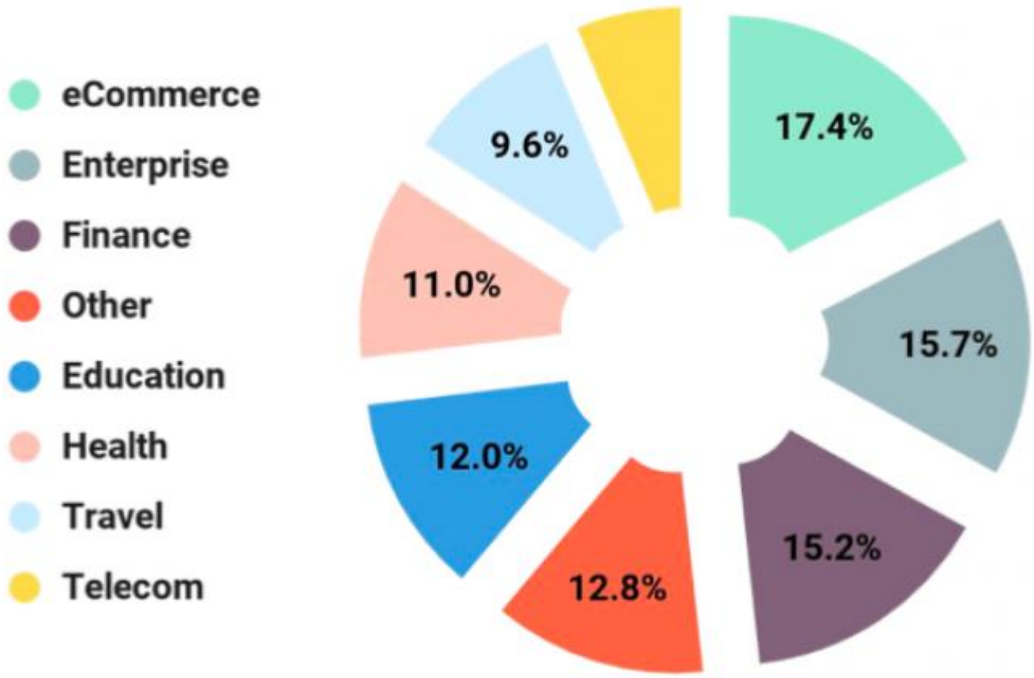

Figure 2.1 - Industry focus among Ukrainian software development companies

Today, there is no longer any doubt that information technology as one of important components of the services market were formed as a full-fledged market, as a form of social communication between people, which consists in the mutual purchase and sale of goods. Modern society built so that the market does not necessarily have a physical location. To demonstrate the product, its advertising, ordering and payment are widely used modern means of communication without physical contact between seller and buyer. That is, IT can be interpreted as a sphere of economic relations. In terms of territorial boundaries of the market and its scale, the IT market is divided into local, national (domestic), world (foreign) markets. It is also obvious that the IT market performs the main functions of the market:

1) Mediation of the social division of labor between economically isolated producers material goods and services. In fact, it is the availability of information, fast communication and the possibility of contactless conclusion of agreements on the purchase of goods or services, as well as attraction labor becomes the key to

determining the level of mutual benefit of the relationship between the two specific participants in social production. [15, p.100]

2) Information function. As you know, the situation is a set of external conditions and circumstances, which affect the value of goods. Market conditions are the economic situation in the market characterized by levels of supply and demand, market activity, sales. Mass information support provides a direct impact on changes in the amount of corporate income. The subjects of the information technology market are, as for any other, sellers and buyers. Its objects are goods, services, capital and labor.

For the current year, the forecast is $ 4.5 billion by 2025 year, the industry is predicted to double almost . A distinction should be made between the concept of market structure and its structural elements. Any market must have the basic structural elements, namely: product offer (set of service providers); demand (set of consumers who buy these services); market prices (prices at which there is a purchase - sale on the market).

2.2 Directions of development of Ukrainian information technologies of products and services on the world market

The field of information technology is considered to be the most dynamic, its improvement is happening every day. The use of technical means provides interactive access of users to information resources. Technological progress is changing, new software is emerging, new methods of information retrieval and data processing are being created. [17, p.33]

The current state of information systems and technologies can be characterized by the following trends:

1. The presence of a large number of industrially functioning databases of large volume, containing information on almost all activities of society.

2. Creation of technologies that provide interactive access of the mass user to these information resources. The technical basis of this trend are public and private communication systems and data transmission of general purpose and specialized, integrated into national, regional and global information and computer networks.

3. Expansion of the functionality of information systems that provide parallel simultaneous processing of databases with different data structures, multi-object documents, hyperenvironments, including the implementation of technologies for creating and maintaining hypertext databases. Creation of local, multifunctional problem-oriented information systems for various purposes on the basis of powerful personal computers and local area networks.

4. Inclusion in information systems of elements of intellectualization of the user interface, expert systems, systems of machine translation, autoindexing and other technological means.

Given the course of events and global computerization, the constant increase in access to certain information, highlight the following prospects for IT development:

1. Improving IT services. The information product in the form of software and emergency services acquires strategic importance.

2. Interaction. The purpose of the interaction is the ability to combine software and hardware. This will allow you to process and transmit information according to the scope and speed of the action.

3. Elimination of intermediate links. The development and improvement of the process of information exchange, the involvement of network technologies for the interaction of suppliers with consumers will contribute to the elimination of intermediate links.

4. Globalization. IT companies will be able to work anywhere, getting the necessary information. The expansion of the information technology market aims to make a profit through the export of services to larger geographical regions. Software engineering is in demand.

5. Rapprochement. The difference between means and services, technical product and support, application at the household level and in the business sphere, information and entertainment is leveled. Internet technologies are more often used.

IT aims to make it easier for users to process, store and share information in any format. Computer technology applies to all areas of human life and activity. Therefore, programmers are daily developing new features, programs and hardware for the ease of use of IT.

The process of designing, creating, testing and maintaining computer programs is one of the key factors in the development of IT. Programming includes the creation of algorithms and analysis of the needs of future users of software, what the programmer does. [14, p.302]

This profession is in great demand, because a programmer is a person who develops algorithms and programs based on mathematical models. He has the necessary knowledge to create information technology, is able to effectively use modern IT and apply any software system throughout life. His field of knowledge should include such a field as software engineering. Such skills will be needed not only in the technological field, but also in architectural, managerial and organizational activities.

Today in our country there are almost 200 thousand programmers. The sphere of information technologies remains one of the most dynamic segments of Ukraine's economy. Exports of IT services from the country grew by 20%. Many outsourcing companies offer their services around the world, and more than 100 highly qualified companies work in the field of IT development in Ukraine.

3. PROBLEMS AND PROSPECTS OF IT SERVICES MARKET DEVELOPMENT

3.1 Problems of IT development in Ukraine

Although this area is one of the most developed compared to other industries, and Ukraine is one of the largest software developers in the world, there are significant problems that negatively affect the development of the sector: the fall of the hryvnia, the partial decline of the domestic market, increase in the number of specialists working for export, a significant difference in the salaries of IT specialists working in the Ukrainian and foreign markets. In addition, we need to keep in mind the military conflict in the east and mobilization, which often becomes an additional argument in favor of emigration. Ukraine has the largest human resource in the field of information technology in Europe, and each year exports software worth billions of dollars.

Ukraine's IT market is developing faster than other industries. Over the past five years, it has doubled and ranked third in exports of goods and services. More than 90,000 IT specialists work in Ukraine. In 2016, they earned $ 2.5 billion in software development alone. GlobalLogic Ukraine software development and production company predicts that the IT market will double Ukraine's GDP over the next three years.

Our country earns well at the expense of its programmers, who work a lot in the foreign market, and the prospects of the IT industry in Ukraine are quite solid. Export-oriented IT industry can double in all respects and increase to 27.2 billion hryvnia revenues to the state budget in 2020.

Today, the IT market of Ukraine is only 0.28% of the global market of IT services. The total global IT market (including production) is 4 trillion. of which the services market occupies 900 billion dollars. However, despite all the difficulties of 2016 (risks of changes in tax legislation, law enforcement inspections, military action in eastern Ukraine), it was a year of stabilization of the industry. In 2016, the

IT sector was ahead of the export of the engineering industry. According to experts, the volume of IT exports in 2016 amounted to about $ 3.2 billion.

In autumn 2016, the President of Ukraine signed a law on the removal of administrative barriers to the export of services. This law will simplify the export of IT services, the procedure for concluding foreign trade contracts, accounting, financial reporting, as well as crediting foreign exchange earnings.

Provided that the state maintains a balanced policy on the IT industry, and the situation in the east of the country stabilizes, there is a possibility of market growth in 2017 by 20-30%. The growth of the Ukrainian segment is not due to the capture of market share of other countries, but due to the development of the entire world market, which is growing at the same rate. [19, p.120]

According to a study by Exploring Ukraine IT Outsourcing Industry, Ukraine ranks fourth in the world in the number of certified IT professionals after the United States, Russia and India. It is the specialists of the IT industry who form the investment attractiveness of Ukraine, successfully work with leading international companies, help attract investment and strengthen the economy. The number of IT professionals in Ukraine is the fastest growing in Europe. It is expected that by 2020 the number of IT professionals in the country will reach 200 thousand people.

One of the problems of the IT industry of Ukraine is the imbalance of the market. On the one hand, there is a growing shortage of professionals and a steady increase in wages, on the other - a surplus of professionals with insufficient qualifications. As a result, competition for qualified human resources is intensifying. In such conditions, the issue of qualification and availability of specialists is most relevant. In this regard, it should be noted that the quality and accessibility of education of specialists in the field of information technology in Ukraine today leave much to be desired. The analysis of scientific works devoted to the study of the peculiarities of the functioning of enterprises in the IT industry, led to the conclusion that among the main reasons for the inconsistency of basic professional education of IT professionals to the requirements of innovative economy are the following:

- insufficiently high qualification of university teachers;

- low level of university funding;

- inadequacy of the content of educational programs of professional training of IT specialists to the modern requirements of employers and changes in the labor market;

- knowledge in the field of information technology changes very quickly, and the system of education in higher education does not keep up with the pace of their renewal.

All this leads to the fact that the education system in the field of information technology lags far behind the needs of the market economy of the country and the dynamically developing industry often receives specialists who do not fully meet its requirements.

The rapid growth of the Ukrainian IT industry can provide gradual and predictable taxation. The world's leading countries use different systems of taxation of the IT services market to create competitive advantages. In Ukraine, there is a simplified system of taxation for IT professionals in the form of private enterprises. Other stimulating factors include reform of the education system, observance of intellectual property rights, development of the internal market, protection against uncivilized interference by state bodies, and promotion of the Ukrainian IT industry abroad.

Ukraine's economy, despite all its problems, provides perhaps one of the best conditions in the world for launching IT projects. The cost, and hence the entry threshold, and the risks are incredibly low, and the market for professionals is quite wide. The pay gap between IT and other sectors is attracting more and more young people to the IT environment and is actually focusing the country's development on one of the world's most promising industries. [8, p.181]

Already, Ukrainians are increasingly launching projects aimed at foreign markets, and teams and people are gaining experience in such implementations. There is every chance that in the coming years we will see a significant growth of

Ukrainian IT products, which will probably be followed by a significant increase in venture investment in projects and the country's economy.

The IT industry is one of the most promising, dynamic and innovative sectors of the modern Ukrainian economy. The main problem of the industry -imbalance of the market: on the one hand, there is a growing shortage of professionals, on the other - a surplus of professionals with insufficient skills. In general, the basis for transforming the capabilities of the domestic IT industry into a competitive segment of the world market, as well as the realization of IT potential Ukraine is the stabilization of the economic and political situation in the country and methodologically sound institutional regulation of the IT services market.

3.2 Prospects for the development of IT market in Ukraine

The development of the international information market is the result of the influence of modern information technologies on culture, social structure, economy, law, and the state. The formation of the information market as an independent environment is due to the presence of a specific product - information resources and services that are the result of intellectual activity. This process is due to the increasing use of knowledge in social production and the accelerated renewal of information technology. The formation of the information market is associated with the involvement in the information sector of the economy of the main resources of developed countries. Therefore, the acceleration of such processes in countries contributes to the transition to the information society, and therefore allows integration into global processes, because today informatization is a major factor in all spheres of human activity.

Therefore, the information market is characterized as a new type of economic space formed as a result of the global socio-economic revolution, based on the field of knowledge and development of information and communication technologies, characterized by a change in the dominance of economic development from manual

and mechanized labor to theoretical knowledge. and the social functions of capital to information.

Trends in the global information technology market:

1. Significant increase in the number of information intermediaries (brokers), which present information to the client in a modified form, corresponding to the client's requests.

2. High degree of specialization of information firms in the fields of science, business, industry, law, etc.

3. Concentration of the information industry on the basis of centers - database generators and database processing centers, the creation of information supermarkets, which not only prepare information, but also trade in information prepared from outside. In one place the client is provided with the most complete set of services: access not only to documentary but also to factual information in the form of such services as dialog search, mode of selective dissemination of information, review - analytical publications, primary sources.

4. The growth of the requirements of service standards as the association of small and medium-sized information firms, which in turn is explained by the increase in the share of information services in kind.

5. The attractiveness of the information business (expanding demand, high profitability, favorable prospects) causes an outflow of capital from other areas of the economy, primarily related to the information business. Capital inflows are carried out in the order of vertical integration, and sometimes diversification, ie convergence of the IT market. [21, p.299]

6. There are reverse processes, when industrial firms, which previously owned information systems, sell them to specialized information firms.

7. Internationalization of capital concentration in the information industry, and especially by Western European firms in the US market.

8. Preservation of small firms with a significant concentration of the information industry, which is facilitated by new information technologies - highly

intelligent and relatively inexpensive, especially computers and the global Internet. Preservation and expansion of the positions of these firms is associated with an increase in demand for information services.

9. Expanding competition in the information industry in various forms: large firms are struggling with small ones; associations fight monopolies and small businesses; commercial, state and non-profit information bodies are fighting for the client; price competition is supplemented by non-price methods-differentiation of services, their combination, variety of assortment.

10. Private capital "leaves" the state the preparation and development of certain types of information services that are not of commercial interest, but vital for the progress of productive forces and social security of society, including the creation of expensive databases, which are then used for commercial dissemination of information firms, but on a paid basis.

The existence and probable preservation in the future of a significant share of the state in information support is explained both by the dual nature of information (on the one hand, it is a commodity, on the other - public property) and differences in targets and incentives for information services, demand and efficiency for the private sector. requirements for the development of the economy and society - for the public sector), the still existing relative unprofitability of information preparation and its introduction into information systems and the profitability of its distribution and dissemination.

11. Formation of the world market of the information industry on the basis of one-time creation of information arrays, minimization of expenses for their service (replenishment, updating, storage, etc.) and repeated, their widest use for information service.

12. Exacerbation of competition for leadership in the global information market between the United States, EU countries and Japan.

13. Creation and strengthening, along with the internationalization of the information industry, of relevant national state bodies and non-governmental organizations that ensure national information "sovereignty".

14. Modern information technologies create an opportunity with a high degree of standardization of information retrieval processes to implement an individual approach to its selection involving unpaid labor of the consumer, ie the principle of self-service, which allows to improve the quality of service (provided that the user is a professional) [2, p.185-186].

One of the directions of development of information technologies is the decision on investments. It is clear that this decision, as well as other management decisions, must be made taking into account economic feasibility. But it turns out that the same benefit is most convenient to calculate using the same information technology. There are models for calculating the total economic effect, which allows you to take into account, among other things, the additional benefits of the introduction of information technology, scalability and flexibility of systems, as well as possible risks. Moreover, it is necessary to note the educational component associated with the use of information technology in the economy. In order for information technology to work, they must be able to use it to maximum effect. Therefore, many managers pay great attention to staff training and monitoring of the latest developments in information technology in economics, science and even art.

The issue of monopolization of the information technology market is important. First of all, it must be said that the monopolization of the world technology market is associated with historical processes. Important in this regard is the fact that some countries have experienced a scientific and technological revolution before, in this regard, their production developed faster, and at some stage required significant modernization. This model of production development is most typical for Japan and the United States, these countries are the monopolists in the information technology market. A special role in the global information technology

market belongs to American IT companies, which account for about one third of the information technology and software market.

In addition to the monopoly of countries, we can talk about the monopoly of international organizations in this area. A special place among international organizations in the information technology market is occupied by the Organization for Economic Cooperation and Development (OECD). It is this organization that develops economic development programs, which also apply to the information technology market. Among the OECD member countries are the United States and Germany as leading exporters of software to the world market, and the United Kingdom, France, and Italy as leading importers of software.

The next link in the monopoly of the information technology market are the monopolies of individual companies. Due to the fact that the information technology market is quite specific, some types of technologies of individual companies are in greater demand due to the novelty of these technologies. Yes, the largest suppliers of IT products are companies such as IBM, Hewlett-Rackard, Fujitsu, Accenture and CSC. Yes, IBM, in 2012. took about 12% of the global IT market. Although by Ukrainian standards it will not become a monopolist, but against the background of the international market of information technology 12% are quite significant, given that in this area takes its place a large number of companies [3, p.36].

It should be noted that analysts predict entry into the international market of information technology in developing countries. This is primarily the Asia-Pacific region, except for Japan and South America. This is due to the high demand for cheap information technology that these countries can provide due to cheap labor and fairly high quality of these products. Therefore, in 2014-2015. the redistribution of world centers of information business development in the world is forecasted.

Another current trend in the development of the information technology market is to increase the ability of consumers to meet their needs for information support (market research; establishing relationships with suppliers and end users with intermediaries and contact audiences; planning production and sales; training)

advanced technological method . It consists in the fact that a powerful information distribution company on an individual project for such a customer selects technical, standard software, develops individual mathematical software, installs and adjusts the entire technological chain that implements information technology, trains customer staff to work with this technology, provides its modernization and service.

CONCLUSIONS

Thus, information technology is a technology associated with the creation, storage, transmission, processing and management of information. They have become one of the most dynamic phenomena of modern society. As emphasized in the Okinawan Charter of the Global Information Society, IT is becoming a vital stimulus to the development of the world economy. They enable people to make full use of their potential and serve the complementary goals of sustainable economic growth, prosperity, democracy, peace and stability. In this regard, the transformation of the potential of information technology into a real force of development is becoming a very important task. According to many leading experts, information technology, although not a panacea for all ills, but can help create a new social and economic infrastructure that provides sustainable economic development by improving the quality of information exchange.

At the present stage of civilization, the prosperity of any country is impossible without its active participation in international cooperation. The independence of the national economy does not mean its isolation. On the contrary, its further development largely depends on the conquest of competitive advantages by domestic industrial enterprises, including in the world information markets. Therefore, the use of information technology in the management of the organization to do business internationally is important. The laws of growth of needs, division of labor, saving of working time, commodity production and exchange are objective economic laws of development of world civilization, which determine the strengthening of its integrity, the formation and strengthening of a single world economy. This is reflected in the expansion of the network of large-scale transnational economic complexes, single markets for goods and services, capital and labor. In this regard, in recent years, the focus of industrial enterprises on the development of cross-border e-commerce in order to stabilize their business and economic situation at the international level is becoming increasingly important.

The main, determining stimuli for the development of information technology are the socio-economic needs of society, and right now society is more interested than ever in the fastest possible informatization and computerization of all areas of activity without exception.

The international information market is a system of economic, organizational and legal relations for the sale, purchase and distribution of information resources, technologies, products and services. The market of information technologies is a sphere of commodity exchange, where the relations connected with process of purchase and sale arise and are realized, and there is a concrete activity on the organization of movement of information products from manufacturers to consumers. [12, p.99]

The global information technology market consists of three main segments: the hardware segment, the software segment and the IT technology segment. Due to the division of the information technology market into segments, competition is observed not only in each of the segments, but also between individual segments.

The most important component of the modern world market of information technologies is computer networks, among which the global Internet has become the most important. Developed in the interests of the US military-industrial complex, this system, thanks to successful technical solutions, has become a phenomenon of global importance. An important advantage of the Internet is that information acquires a new quality through the use of hypertext and multimedia technologies.

In the first place in terms of turnover of the global IT market is the United States with 67% of sales. The European Union controls 20% of the global market. However, the highest profitability of the IT market is recorded in China, which accounts for only 2.7% of revenues of major IT companies. And the fastest growth rate of the information technology sector was recorded in India. Thus, the rate of increase in turnover in the market is 18.4%. World Bank experts predict that by 2020, India will account for about 9% of the information technology market.

Analysis of the current state of development of information technology in global financial markets allows us to note the creation of an almost ideal information system and its continuous improvement. Operations in the financial markets of European countries or the United States take only a few minutes, important news is transmitted to all departments of certain organizations in seconds, decision-making computers, without human assistance - this is a great achievement of today's information technology.

The field of information technology belongs to those that are developing very dynamically. Over the past 12 years, revenues of IT companies in the global information technology market have grown by an average of 8% per year, with an average global GDP growth rate of 3%, which has led to an increase in the industry's share in GDP; greetings.

The international information technology market is undergoing a stage of dynamic evolution, despite the shocks of recent years in the markets of developed countries. Thus, ICT service increased by 38%, ICT equipment - by 33%, software - by 10%, communication technologies - by 13%. The global information technology market covers the production of products and services in the industries of industry, instrumentation, telecommunications, e-commerce and the Internet, intellectual property, mass media, advertising and advertising services, humanitarian, public and corporate governance, banking and finance, insurance, etc. [11, p.34]

In conclusion, it should be noted that the growth rate of the global information technology market is outpacing the rate of world GDP. Developed countries are both the largest producers and consumers of information technology. It is worth noting the growing role of countries such as India and China, which are gradually taking the lead in international trade, and in the long run may overtake even Japan and the United States. With the growing importance of the global information technology market in China and India, leading manufacturers have lost the ability to dictate production standards and price levels, indicating a decrease in the level of monopolization of the information technology market. Gradually, you can see a

decline in hardware production and increased interest in IT. In conclusion, I would like to note that the information technology market is primarily a dynamic and promising market, which may in a few years will dictate trends in the international economy, as the raw materials market is gradually declining due to the end of raw materials.

At the moment, information technology, their study and development is a particularly important task for professionals. Because it is already clear: without the latest information technologies, the economy of individual enterprises and the whole country will remain among the lagging behind.

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ANNEXES

Annex A

SUMMARY

Holota M. M. IT services market as the international business sphere. - Master's level qualification paper. Sumy State University, Sumy, 2021.

The market of IT services as a sphere of business, its influence on the world economy, the place of information technologies in the world economy is investigated in the work.

Keywords: IT, software development, information development, information technology, digital industry, IT services.

АНОТАЦІЯ

Голота М. М. Ринок ІТ послуг як сфера міжнародного бізнесу – Кваліфікаційна магістерська робота. Сумський державний університет, Суми, 2021 р.

У роботі досліджено ринок ІТ-послуг як сфери бізнесу, його вплив на світову економіку, місце інформаційних технологій у світовій економіці.

Ключові слова: ІТ, розробка програмного забезпечення, інформаційні технології, ІТ послуги.