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РАЗРАБОТКА ПОДХОДА К АНТИСИПАТИВНОМУ УПРАВЛЕНИЮ РИСКАМИ ПРЕДПРИЯТИЯ В УСЛОВИЯХ НЕОПРЕДЕЛЕННОСТИ

Предложен комплексный подход к антисипативному управлению рисками предприятия в условиях неопределенности. Подход основан на ранней диагностике слабых сигналов потенциальных возможностей и угроз среды функционирования предприятия, что позволяет прогнозировать их будущее развитие и принимать соответствующие превентивные меры по минимизации влияния рисков и использования возможностей для перспективного развития предприятия.

Ключевые слова: антисипативное управление рисками, идентификация слабых сигналов, превентивные меры, оптимизация допустимых рисков.

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ENTERPRISES OF TELECOMMUNICATIONS IN UKRAINE: RESEARCH OF THE PRESENT STATE AND DIRECTIONS OF DEVELOPMENT

Викладено результати комплексного дослідження економічної діяльності підприємств телекомунікацій України в 2015–2016 роках і напрямків її розвитку. Виконано оцінку стану конкурентного середовища на ринках телекомунікаційних послуг. Встановлено, що виникла сприятлива тенденція підвищення результативності діяльності підприємств. Зроблено висновок, що підприємства телекомунікацій можуть повністю забезпечувати виконання комунікативних функцій в глобальній інфокомунікаційній сфері, яка формується.

Ключові слова: *інфокомунікації, кіберпростір, конвергенція технологій, комунікації, конкурентне середовище, підприємства телекомунікації.*

1. Introduction

Enterprises of telecommunications in Ukraine, as well as world telecommunications, experience transformations related to the evolving processes of convergence of information and communication technologies, as well as integration into the cyberspace of the Internet. Infocommunication services markets are being formed, at which telecommunications enterprises begin to perform, mainly, communicative functions for the transfer of digital information products from producers to consumer terminals. Many enterprises also seek to produce (or broadcast) various digital products (television channels,

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IP telephony, video products and much more), providing their subscribers with their own Internet services. The telecommunication services market acquires a network structure integrated with the cyberspace of the Internet. In these conditions, the economic activity of enterprises significantly changes. New directions in development of the activities of telecommunications enterprises in Ukraine, formation of global infocommunications have been little studied by economic science, as a result of which practitioners lack the relevant knowledge to make effective decisions in the new conditions. In this article, the authors outline the results of studies of the current state and trends in development of economic activity of telecommunications enterprises in Ukraine, which can be used by both scientists and economists to increase the efficiency of enterprises.

2. The object of research and its technological audit

The object of research is the process of economic activity of enterprises in the telecommunications market in Ukraine in 2015 and in 2016, the direction of its transformation in the conditions of the formation of the global infocommunication market.

Currently, in Ukraine (as well as all over the world), a global market of infocommunication services is being formed, at which the consumer, territorially residing in Ukraine, can receive on his terminal an information product in digital format produced by an Internet company located in any country in the world . The model of this market is radically different from the current model of the telecommunications market. It is in the formative stage, its study is still waiting for its researchers. Management of the formation of this market is in the competence of the global regulator – International Telecommunication Union (ITU) [1]. Some aspects of the problem are considered in monographs [2–4] and in articles [5–7]. In this article, this problem is not studied in detail, it deserves a separate independent study.

3. The aim and objectives of research

The aim of research is analysis of the results of economic activity of telecommunications enterprises in Ukraine in 2015 and 2016 and the directions of their development in the conditions of the global market of information and communication services.

To achieve this aim, the following tasks are set and solved:

1. To conduct a comprehensive study of the current state of all segments and enterprises of the telecommunications market in Ukraine.

2. To assess the state of the competitive environment in the mobile communications market and in the telecommunications market in Ukraine as a whole and the level of their monopolization.

3. To reveal the directions of development of telecommunications in Ukraine in the process of formation of the global market of infocommunication services.

4. Research of existing solutions of the problem

In Ukraine, the analysis of the economic performance of telecommunications enterprises is carried out by the National Commission for the State Regulation of Communications and Informatization (NCCIR), which publishes annual reports on its website [8]. The article uses some data from the reports of the NCCIR for 2015 [9] and for 2016 [10].

Some aspects of this problem are considered in monographs [2–4] and articles [5–7]. In the monograph [2] the functioning of the markets of infocommunication services is considered, some possible directions of improving the activity of infocommunication enterprises are suggested. The monograph [3] discloses the requirements of the economy for infocommunication infrastructure and the level of development of infocommunications, the laws of development of infocommunications. In the monograph [4] the structure of the markets of infocommunication services is examined, the specifics of the economy of infocommunication services are specified. In article [5] scientific bases of the economy of infocommunications are formulated. In the article [6] some factors of the development of infocommunications are analyzed. The article [7] considers the current state and prospects of using information and communication technologies in Ukraine.

However, the problem considered in the article is practically not investigated in these papers. Existing solutions that are adequate to the real economic situation in global infocommunication markets almost does not yet exist.

5. Methods of research

The methodological basis of research is a set of methods and principles of scientific research, scientific works of domestic and foreign scientists on the problems of telecommunications development and the formation of the market of information and communication services [2–7]. To solve the problems of this research, methods of economic, marketing and competitive analysis are used. The system approach allows to consider the telecommunications in Ukraine as a single system, and their segments (mobile communication, fixed communication and others) as interconnected subsystems. When studying the state of the competitive environment in the market of telecommunication services, the Herfindahl-Hirschman index is computed using the methodology outlined in [11]. The information base of the study, in addition to reports by the NCCIR [9, 10], is statistical data of the State Statistics Service of Ukraine [12], information published on the websites of telecommunications operators of Ukraine [13–17], other national Internet resources [18–24], as well as data from international organizations: statistical materials and reports of the International Telecommunication Union (ITU) [25, 26], the World Trade Organization (WTO) [27], the United Nations Economic Commission for Europe (UNECE) [28]), Information published in the World Wikipedia [29].

6. Research results

6.1. Research of the current state of telecommunications in Ukraine. *General characteristics.* In 2016, the total revenues of all Ukrainian telecommunications companies from the provision of services were 56.9669 billion UAH. (In 2015, revenues were equal to 50.8518 billion UAH, growth of incomes in 2016 – 12 %). Provision of the population with mobile communication per 100 inhabitants is equal to 133.1; fixed telephony – 19.8. The number of mobile subscribers as of December 31, 2015 was 60.77201 million people (according to the number of SIM cards: some subscribers have two or three SIM cards). The number of mobile communication subscribers as of December 31, 2016 amounted to 56.7179 million people (in connection with the reduction in the cost of roaming, subscribers refuse additional SIM cards). The number of fixed telephony subscribers as of 01.01.2017 was 8.4452 million people [8, 12].

Thus, in the telecommunications in Ukraine there is a favorable tendency to increase the effectiveness of economic activity of enterprises. The growth of incomes of the telecommunication companies of Ukraine by the results of 2016 amounted to 12 %.

In the modern telecommunications market in Ukraine (as a system), the following segments (subsystems) are identified using the system approach:

– a segment of traditional telecommunications companies (mobile operators and fixed telephony operators);
– a segment of Internet providers and other telecommunications companies that provide Internet services;
– a segment of companies that broadcast programs of on-air, cable and satellite television;
– a segment of other enterprises in the telecommunications market.

Operators in each segment are connected to the cyberspace of the Internet. All telecommunications enterprises are linked. Therefore, it is possible to assume that the modern telecommunications market has a network structure.

In the network structure of the market, each consumer, connecting to one operator, is connected to the entire network and to the cyberspace of the Internet and can order and receive the information product necessary to him. This process was studied in more detail in the work of the authors [18].

In the process of research, an analysis of the current state of telecommunications enterprises was made for each of the above segments and for the market as a whole.

Segment of traditional telecommunications companies. Mobile operators. These are the largest and most profitable companies in Ukraine. The Company's revenues from the provision of mobile services in this segment at the end of 2016 amounted to 34.0771 billion UAH. (At the end of 2015 – 33.2056 billion USD, increase of revenues in 2016 amounted to 2.62 %). The share of revenues of mobile companies in the total income of all the companies of telecommunications amounted to 59.82 % (2015 – 65.30 %) [8–10, 12].

The main Ukrainian mobile communication companies are: Kyivstar, Vodafone, Lifecell, Intertelecom, 3Mob, Peoplenet [8].

Kyivstar is a company that has been operating in Ukraine for 20 years, the operator provides communication and data services based on a wide range of communication technologies. Kyivstar is a part of VimpelCom Ltd. (Now – VEON), one of the world's largest integrated telecommunications companies, headquartered in the Netherlands. All indicators of the economic activity of Kyivstar in 2016 have improved. Total revenue for 2016 amounted to 14.960 billion UAH. (In 2015 – 13.475 billion UAH, an increase in 2016 – 11 %); income from the sale of mobile services amounted to 13.851 billion UAH. (In 2015 – 12.475 billion UAH, an increase in 2016 – 11 %); the revenue from the sale of fixed-line services in 2016 amounted to 1.052 billion UAH (in 2015 – 967 million UAH, an increase in 2016 – 8 %). The number of Kyivstar mobile communication subscribers in 2016 was 26.1 million (in 2015 – 25.4 million, an increase in 2016 – 2.6 %). Basic services: mobile communication and mobile data transmission (92.9 % of revenue); fixed link (7 % of revenue); access to the Internet, Kyivstar TV, «home Internet» and other services (0.1 %). The share of Kyivstar in the segment of the mobile communications market is equal to: by the number of subscribers in 2016 – 46 % (in 2015 – 41.8 %, growth in 2016 – 4.2 %); by the amount of income in 2016 – 40.9 % (in 2015 – 37.57 %, growth in 2016 – 3.33 %). The share of Kyivstar in the segment of the mobile communications market is equal to: by the number of subscribers in 2016 – 46 % (in 2015 – 41.8 %, growth in 2016 – 4.2 %); By the amount of income in 2016 – 40.9 % (in 2015 –37.57 %, growth in 2016 – 3.33 %). The share of the operator Kyivstar in the telecommunications market: in 2016 – 26.26 %; in 2015 – 26.49 % (Table 1) [14, 19].

Thus, it is possible to assume that the company Kyivstar is a dynamically developing company with the direction of development to increase the volume of new Internet services and infocommunication services.

Vodafone is one of the world's largest telecommunications companies, providing a wide range of services, including mobile voice communications, data transmission, messaging, fixed Internet and television. At the end of 2016, operator Vodafone Ukraine received an income of 11.1 billion UAH (in 2015 – 10 billion UAH), which is 11 % more than the previous year. For 2016, data traffic grew by 210 %, revenue from it exceeded 2 billion UAH. The number of subscribers of the operator for the year is increased by 425 thousand. The subscriber base reached 20.9 million people (in 2015 – 20.4 million people). Vodafone Ukraine's share in the segment of the mobile communications market: by the number of subscribers in 2016 – 36.85 % (in 2015 – 33.57 %, growth in 2016 – 3.28 %); in terms of revenue in 2016 – 32.57 % (in 2015 – 30.11 %, growth in 2016 – 2.46 %). The operator's share in the telecommunications market in terms of revenue in 2016 is 19.46 %, in 2015 – 19.66 % (Table 1) [15, 20].

Thus, it is possible to assume that Vodafone Ukraine is a growing company with an emphasis on increasing the volume of new Internet services and infocommunication services. The position of the operator on the market is stable.

Lifecell is a leading company in providing innovative services. One of the achievements of the operator is development of the mobile Internet market in Ukraine. In 2015, Lifecell became the first operator on the Ukrainian market, which launched a 3G+-based connection. Lifecell aims to become the first Ukrainian data operator [21].

In 2016, the income of Lifecell grew by 8.1 % to 4.84 billion UAH, compared with 4.48 billion UAH in 2015. The active subscriber base of Lifecell in 2016 was 9.2 million people, in 2015 – 10.6 million, the decrease in the subscriber base in 2016 was 1.4 million (8.1 %), which is explained (by the operator) by reducing the number of users of several SIM cards [22].

The share of the mobile communications segment of Lifecell was: by the number of subscribers in 2016 – 16.2 % (in 2015 – 17.41 %, decrease in 2016 – by 1.21 %); In terms of revenue in 2016 – 14.19 % (in 2015 – 13.49 %, growth in 2016 – 0.7 %). In 2016, the operator held 8.5 % of the telecommunications market, in 2015 – 8.8 % (Table 1).

Thus, it can be assumed that the company Lifecell is a developing company with a focus on new Internet services and infocommunication services. The operator's position in the telecommunications services market is stable.

Other mobile operators: Intertelecom, 3Mob, Peoplenet. Intertelecom rank 4-th among mobile communication operators in Ukraine. The operator provides mobile communication services, fixed-line telephony, international communications and 3G Internet access using CDMA EVDO Rev.A and CDMA EVDO Rev.B technologies in all regions of Ukraine. Services are available in the widest coverage area among operators providing 3G Internet access services (more than 14.000 settlements). The subscriber base of the operator for today is more than 1 million 400 thousand subscribers [17].

3Mob is an operator that provides mobile services of UMTS/WCDMA standard. The activities of LLC «3Mob» are: the provision of mobile services of UMTS standard with the right to maintenance and operation of networks and provision of telecommunication channels [23].

PEOPLEnet is the operator of mobile communication of the third generation. Mobile services are provided in the CDMA standard using EV-DO Rev.A technology [24].

Information on the number of mobile subscribers and the volume of revenues from the provision of mobile communication services for operators Intertelecom, 3mob, Peoplenet in available sources is missing.

Calculation of the market share of the mobile communications market of other mobile operators (Intertelecom, 3Mob, Peoplenet) is made by comparing the total revenue (or number of subscribers) of all mobile operators with the similar total data of the three leading operators (mentioned above). The number of subscribers of other mobile operators in 2016 amounted to 0.5179 million people (in 2015 – 9.8 million people), the market share by the number of subscribers of other mobile operators in 2016 – 0.95 % (in 2015 – 7.22 %). The volume of income of other operators in 2016 was equal to 3.1771 billion UAH (in 2015 – 5.2506 billion UAH), respectively, the market share by revenue in 2016 – 12.34 % (in 2015 – 18.83 %).

The share of other mobile operators in the telecommunications market is calculated similarly. In 2016, other mobile operators occupied 5.57 % of the telecommunications market. In 2015 – 10.35 %. The share of these operators in the telecommunications market has significantly decreased. The decline in the market share of other mobile operators in 2016 can be explained by the introduction of 3G technology by the main operators and the higher prestige of leading companies.

The results of the calculations are summarized in Table 1.

Table 1

Structure and dynamics of development of the mobile services segment of the telecommunications market in Ukraine (2015–2016)

Operators, companies	The income from the provision of mobile telephone services, billion UAH			Market share, %	
	2016	2015	2016/2015	2016	2015
Mobile communication segment, generally	34.0771	33.2056	1.03	100 %	100 %
Including:					
Kyivstar	14.960	13.475	1.11	40.9 %	37.57 %
Vodafone	11.1	10	1.11	32.57 %	30.11 %
Lifecell	4.84	4.48	1.08	14.19 %	13.49 %
Other mobile operators	3.771	5.2506	0.72	12.34 %	18.83 %

The data given in the table confirm the conclusion made above that the market has formed a tendency to improve the performance of economic activity of mobile communication companies.

Assessment of the state of the competitive environment in the mobile communications market in Ukraine and its monopolization level. In international practice, the assessment of the state of competition (and monopolization degree) in the market is carried out by calculating the Herfindahl-Hirschman index (HHI). The main advantage of the indicator is the ability to respond quickly to any internal market changes. HHI index is calculated by adding the squares of market shares, in %, of all enterprises operating in this market [11].

HHI index, according to Table 1, is 2855 for 2015 and 3087 for 2016. Since for both 2015 and 2016 the value of *HHI* is within *HHI*>2500, according to [11], the mobile communication market is sufficiently concentrated, the competitive environment is developed weakly.

The range of services provided by the mobile communication company is continuously expanding, new infocommunication services are being introduced: Internet access services, a variety of media services, Internet TV, advertising and others. It should be noted, however, that following the results of 2016, the share of new infocommunication services of mobile operators in the revenue structure of these operators is only about 1 %, and 99 % of the revenue operators receive from their professional (communication) activities.

Segment of traditional telecommunications companies. Operators of fixed telephony. Operators of fixed telephony are enterprises that traditionally work in the market of communication services in Ukraine. In 2016, the incomes of these enterprises from the provision of fixed-line services were equal to 6.5184 billion UAH, which accounted for 83.1 % of the revenues of 2015. In 2015, the amount of income was equal to 7.8451 billion UAH, which amounted to 97.4 % of revenues in 2014. The market share of fixed-line telecommunications operators in the telecommunications market in 2011 was 11.44 % (in 2015 – 15.43 %). The decline in incomes of fixed-line enterprises is stable (this is a worldwide trend caused by the rapid development of mobile communications and its advantages). As of 01.01.2017 the number of fixed-line subscribers was 8.4458 million people (in 2015 – 7.8449 million people). Provision of the population with fixed telephony in 2016 per 100 inhabitants was 19.8 [8–10].

PJSC «Ukrtelecom» is the dominant fixed-line operator in Ukraine. Public Joint Stock Company «Ukrtelecom» is one of the companies in Ukraine that provides a full range of telecommunication services in all regions of the country. The operator has a particularly strong position in the fixed-line telephony market. PJSC «Ukrtelecom» is also a leader in the market of high-speed fixed access to the Internet. The company offers its customers almost all types of modern telecommunications services, as well as new Internet services (mainly services for access to the Network). Since 2014, Ukrtelecom provides fairly high financial performance indicators. By the results of 2016 the total income remains practically stable – 6.636 billion UAH. The level of income from telephony is preserved and revenues from Internet services are increasing. In 2016, the operator provided fixed-line telephony services in the amount of about 3.2 billion UAH (In 2015 it was 3.231 billion UAH, which is only 0.9 % more). Revenues from Internet services and data transmission amounted to 1.623 billion UAH (in 2015 – 1.443 billion UAH, growth in 2016 – 12.4 %). At the end of the year, the company served more than 5.7 million subscribers. The share of Ukrtelecom in the market of fixed-line telecommunications services in Ukraine was 50.56 % in 2016 (41.84 % in 2015); in the telecommunications market in 2016 – 5.78 %; in 2015 – 6.35 % (decrease by 0.57 %) [8–10, 13].

Other fixed-line operators. In addition to Ukrtelecom, Ukraine has several fixed-line operators operating at various regional levels: SCM Telecom (Kyiv), Velton Telecom (Kharkov), Sigma-T (Dnipro), Sipnet Ukraine (Odesa), Odeko (Lviv) and a lot others. The revenue of all regional fixed-line operators in 2016 amounted to 3.3154 billion UAH, respectively, the share of other operators in the fixed-line telephony market – 49.44 % (in 2015: revenue – 4.5267 billion UAH, market share – 58 %, 16 %). In 2016, other fixed-line operators occupied 5.66 % of the telecommunications market. In 2015, 9.08 % (decrease by 3.42 %) [8–10, 13].

The range of services for fixed-line operators is quite wide: fixed-line and mobile telephony services, Internet access services, and a variety of media services, Internet TV, advertising, and other (including infocommunication) services.

Internet providers and other telecommunications companies that provide Internet services. Development of the Internet has led to the emergence of companies that connect the computer and other consumer terminals to the Internet: Internet providers and other telecommunications companies that provide Internet services. Their main tasks are providing consumers with high-quality access to Internet resources and receive profit on this basis. In Ukraine, in this area, there are both national operators (including all major mobile and fixed-line operators) and many regional operators. Their main products are Internet access services (Internet services). This is a growing segment of the telecommunications market. Incomes of the companies of this profile in 2016 amounted to 9.1018 billion UAH (providing broadband access, including, 6.0546 billion UAH). In 2015, the revenues of these companies amounted to 6.1305 billion UAH (from granting broadband access – 5.222 billion UAH). The growth of incomes of enterprises of this segment in 2016 amounted to 48.5 %. The share of the telecommunications market of Internet providers and other telecommunications companies amounted to 16 % in 2016 (broadband access, including 10.6 %), in 2015 – 12 % (from broadband access, including 10.3 %) [8–10, 12, 13].

An explicit development trend of these enterprises is the continuous expansion of the range of services that they provide to their clients (which allows them to increase profits and attract new customers). Currently, they can offer: telephone services, IP telephony services, Internet TV, media services, advertising services and others (including infocommunication services).

Companies that broadcast programs of air, cable and satellite television. In Ukraine, services for the transmission and reception of television and radio programs of on-air television are provided by enterprises of the BRT Concern (BRT-radio, television) cable – regional operators of cable television. BRT Concern is the state operator of TV and radio broadcasting, radio relay and satellite communication. The customers of the enterprises of the BRT Concern are nationwide television and radio companies of Ukraine, regional, regional TV and radio companies, commercial television and radio companies and communication enterprises. Cable TV operators operate in all cities of Ukraine [8–10, 12, 13]. In 2016, these operators received revenue from the provision of services in general 2.7687 billion UAH: operators of on-air TV – 1.1089 billion UAH, Cable TV operators – 1.6298 billion UAH. In 2015, these operators received revenue from the provision of services in general, 2.4308 billion UAH: operators of on-air TV – 0.8858 billion UAH, Cable TV operators – 1.5450 billion UAH. The revenue growth of operators of terrestrial and cable TV in 2016 was 14 %. Accordingly, the share of the telecommunications market for terrestrial and cable TV operators was in 2016: for operators of on-air TV – 1.9 %, for cable TV operators – 2.9 %; In 2015: for operators of on-air TV – 1.6 %, for cable TV operators – 3 % [8–10, 12, 13].

Cable television operators, in addition to basic television broadcast services, also provide a continuously expanding range of other services: Internet access services, telephone services, Internet TV, media services, advertising, and other (including infocommunication) services.

Other enterprises of the telecommunications market. The income of other enterprises of the telecommunications market was the same: in 2016 – 4.5009 billion UAH (market share – 7.9 %); in 2015 – 1.2398 billion UAH (the market share is 2.67 %) [8–10, 12].

All the obtained data are summarized in Table 2.

Table 2

Structure and dynamics of the development of the telecommunications market in Ukraine (2015–2016)

Operators, companies	Revenues from the provision of telecommunications services, billion UAH			Share of telecommunications market, %	
	2016	2015	2016/2015	2016	2015
Telecommunication market, in general	56.9669	50.8518	1.12	100	100
Mobile communication segment, generally	34.0771	33.2056	1.03	59.82	65.30
Including:					
Kyivstar	14.960	13.475	1.11	26.26	26.49
Vodafone	11.1	10	1.11	19.49	19.66
Lifecell	4.84	4.48	1.08	8.5	8.8
Other mobile operators	3.771	5.2506	0.72	5.57	10.35
Fixed telephony segment, in general	6.5184	7.8451	0.83	11.44	15.43
Including:					
Ukrtelecom	3.2960	3.231	1.02	5.78	6.35
Other fixed telephony operators	3.3154	4.5267	0.73	5.66	9.08
Internet providers and other telecommunications companies that provide Internet services	9.1018	6.1305	1.48	16	12
TV operators, in general	2.7687	2.4308	1.14	4.8	4.6
Including:					
Operators of on-air TV	1.1086	0.8858	1.25	1.9	1.6
Cable TV Operators	1.6298	1.5450	1.05	2.9	3
Other telecommunications enterprises	4.5009	1.2398	3.63	7.9	2.67

The data given in the table confirm the conclusion made above that the positive trend in the telecommunications market in Ukraine to improve the performance of economic activity of virtually all market participants has been formed.

An assessment of the competitive environment in the telecommunications market in Ukraine is made using the

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methodology outlined above for the mobile communications market. HHI index is calculated by adding the squares of the market shares, in %, of all enterprises operating in the telecommunications market [11].

Accordingly, HHI of the telecommunications market in Ukraine for 2015 is 1545. For 2016, *HHI* is 1575. Since for both 2015 and 2016 the value of *HHI* is within $1500 \leq HHI \leq 2500$, then, according to [11], in the telecommunications market in Ukraine. There is a moderate concentration and, in a certain sense, a moderately developed competitive environment.

6.2. Directions of development of telecommunications in Ukraine. Worldwide trends in the development of telecommunications are determined by the world evolutionary processes of convergence of information and communication technologies that brought to life the emergence of a fundamentally new product – infocommunication services, the formation of a network of infocommunication services markets and, ultimately, the rapid development of the field of infocommunications. In the cyberspace of the Internet, information and telecommunications services have merged into a single whole, into infocommunication services, while the information component of the service is crucial for the consumer, and the communicative component has been hidden, incomprehensible. Infocommunication services represent a new reality, in which the goods, information, and service are organically combined. These services have made it possible to effectively meet the continuously growing needs of people in a variety of information and modern information products that arise in their economic and other activities. Modern information services are distinguished by great variety, rapid adaptation to changes in market requirements, the possibility of personalization, continuous innovation changes, which provided them with a steady market demand. The current high growth rates in the provision of infocommunication services make it possible to predict their predominance in the communication networks in the future. More details in the work of the authors [2].

It should be noted that consumers of infocommunication services are all enterprises and organizations of the state, as well as the entire population of the country. This factor, as well as a continuous increase in the number of Internet users, ensures the growth of demand for these services.

Infocommunication markets are global, due to the use of the global cyberspace of the Internet. Consumers who are territorially located in Ukraine, can, in an effort to minimize their costs, without restrictions, acquire the necessary products from companies in any country in the world. At the same time, these companies are not territorially located in Ukraine and their market activities, respectively, can't be the subject of state regulation. This is a fundamental difference between the markets of infocommunication services from traditional telecommunications markets, in which all enterprises are territorially located on the territory of Ukraine.

In modern conditions, telecommunications enterprises in Ukraine fully ensure the performance of communicative functions in the emerging economy of infocommunication services. In addition, most enterprises seek to increase their profits through the production of their own infocommunication services. This trend is stable.

Research of information published by international organizations: the International Telecommunication Union (ITU) [25, 26], the World Trade Organization (WTO) [27], the United Nations Economic Commission for Europe (UNECE) [28], the World Wikipedia [29] allows to conclude that the trends in the transformation of telecommunications in Ukraine correspond to global trends.

Thus, the main directions of development of telecommunications enterprises in Ukraine are: firstly, the focus of economic activity on ensuring effective communications in the global information and communications market; secondly, the desire of enterprises to increase profits through the production and supply to the market of new Internet services and own infocommunication services. The share of Internet services is constantly growing.

A stable direction of development of the majority of telecommunications enterprises in Ukraine is the desire to increase profits through the production and supply of new Internet services and own infocommunication services to the market.

7. SWOT analysis if research results

Strengths. The strength of research is a detailed analysis of the current state of telecommunications enterprises in Ukraine. For the first time, the activity of not only leading operators, but also all other enterprises entering the modern market, in particular, the activity of Internet providers and other telecommunications companies rendering Internet services, whose share in the market in 2016 was 16 %, is investigated. The state of competition in modern markets is also calculated.

Weaknesees. The weak side of research is the lack of available statistical sources of information on the performance of small businesses, which made it impossible to perform more accurate calculations of HHI index, resulting in calculations showing an underestimated level of competition.

Opportunities. The further use of the research results allows to analyze the transformation processes of the economic activity of telecommunications enterprises in the emerging markets of infocommunication services.

Threats. Threats to using the research results are rapid changes in market situations, which require a continuous analysis of these changes and the adaptation of the proposed solutions to the changed conditions.

8. Conclusions

The study of the current state and directions of development of telecommunications enterprises in Ukraine allows to draw the following conclusions:

1) at the end of 2016, enterprises operating in the telecommunications market in Ukraine achieved higher indicators: the total revenue of enterprises increased by 12 % compared to 2015, a favorable trend in the market for improving the performance of economic activity of enterprises appeared; while revenues of the segment of Internet providers and other telecommunications companies from the provision of Internet services increased by 48.5 %, which indicates an effective solution by enterprises of the problem of access to the Network and the use of its capabilities by Internet users of Ukraine;

2) assessment of the competitive environment in the mobile communications market and in the telecommunications market in Ukraine, performed by calculating *HHI* (Herfindahl-Hirschman index), allows to state that the mobile communication market is still sufficiently concentrated, the competitive environment is poorly developed;

a moderately developed competitive environment has formed on the telecommunications market in Ukraine;

3) directions of development of telecommunications in Ukraine correspond to the global trends in the development of telecommunications and are based on the fact that in the emerging global market of information and communication services integrated into the cyberspace of the Internet, telecommunications enterprises will perform communicative functions.

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ПРЕДПРИЯТИЯ ТЕЛЕКОММУНИКАЦИЙ УКРАИНЫ: ИССЛЕДОВАНИЕ СОВРЕМЕННОГО СОСТОЯНИЯ И НАПРАВЛЕНИЙ РАЗВИТИЯ

Изложены результаты комплексного исследования экономической деятельности предприятий телекоммуникаций Украины в 2015–2016 годах и направлений их развития. Выполнена оценка состояния конкурентной среды на рынках телекоммуникационных услуг. Установлено, что возникла благоприятная тенденция повышения результативности деятельности предприятий. Сделан вывод, что предприятия телекоммуникаций могут полностью обеспечивать выполнение коммуникативных функций в формирующейся глобальной инфокоммуникационной сфере.

Ключевые слова: инфокоммуникации, киберпространство, конкурентная среда, коммуникации, конвергенция технологий, предприятия телекоммуникаций.

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