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ІНФОКОМУНІКАЦІЇ В СИСТЕМІ ІННОВАЦІЙНОЇ ІНФРАСТРУКТУРИ НАЦІОНАЛЬНОЇ ЕКОНОМІКИ ДЕРЖАВИ

Актуальність. В нинішніх умовах розвиток інфокомунікацій як складової інноваційної інфраструктури національної економіки є запорукою успішної діяльності не тільки будь-якого підприємства, а й держави в цілому. Очевидним є факт, що інфокомунікаційні технології дають можливість суттєво підвищити ефективність розв'язання різноманітних задач маркетингового, фінансового або цифрового характеру. Розвиток інфокомунікаційних технологій та їх масове впровадження є необхідною умовою розвитку сучасного динамічного суспільства.

Мета та завдання. Метою дослідження є розгляд та аналіз маркетингових, фінансових та цифрових технологій які впливають на розвиток інфокомунікацій, в системі інноваційної інфраструктури.

Результати. Розвиток інфокомунікацій в країні та впровадження новітніх технологій в усі сфери суспільного життя, діяльність органів виконавчої влади і органів місцевого самоврядування, бізнесу, домогосподарств розглядаються як пріоритетні напрямки державної політики. Ринок інфокомунікацій перебуває в стані активного становлення та повинен стати основою для учасників у побудові інформаційного суспільства в Україні. Важливістю набуває необхідність вирішення проблем забезпечення учасників та його суб'єктів повною достовірною інформацією щодо усіх сфер діяльності для підтримки процесів прийняття управлінських рішень, сприяння становленню державності, підвищення продуктивності суспільного виробництва продукції і послуг на основі широкомасштабного використання інформаційних технологій, зростання економічного потенціалу регіонів, покращення соціально-економічних та екологічних умов життя людини. Особливого значення набувають маркетингові інформаційні потоки, які залежать від системного функціонування підприємства та інформаційної взаємодії із постачальниками та покупцями.

У статті розглянуті основні складові інфокомунікацій в системі інноваційної інфраструктури на національному рівні. Обґрунтовано необхідність розвитку інфокомунікацій в системі інноваційної інфраструктури. Проаналізовано фінансові, маркетингові та цифрові складові інфокомунікації, які забезпечать розвиток національної економіки. Розглянуто стратегію розвитку інфокомунікації відповідно до принципів реформування цифрових технологій.

Висновки. Відзначені стратегічні завдання створення сучасної інноваційної системи, що включатиме технологічні та наукові парки, венчурні фонди, мережі трансферу технологій тощо, потребує запровадження механізму державно-приватного (публічно-приватного) партнерства в інноваційній сфері та має бути спрямовано на законодавче встановлення стимулюючих особливостей для нових виробництв, а також компанії сфери інфокомунікацій.

Ключові слова: інфокомунікації, технологічний розвиток, використання інформаційних технологій, інноваційна інфраструктура, інфокомунікаційний простір, фінансування інфокомунікацій.

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INFO-COMMUNICATIONS IN THE SYSTEM OF INNOVATIVE INFRASTRUCTURE OF THE NATIONAL ECONOMY OF THE STATE

Topicality. *In the current environment, the development of info-communications as part of the innovation infrastructure of the national economy is the key to successful operation not only of any enterprise but also the state as a whole. It is obvious that info-communication technologies make it possible to significantly increase the efficiency of solving various marketing, financial or digital tasks. The development of info-communication technologies and their mass introduction is a necessary condition for the development of a modern dynamic society.*

Aim and tasks. *The purpose of the study is to consider and analyze marketing, financial and digital technologies that affect the development of info-communications in the system of innovation infrastructure.*

Research results. *The development of info-communications in the country and the introduction of new technologies in all spheres of public life, the activities of executive bodies and local governments, business, households are considered as priority areas of public policy. The market of info-communications is in a state of active formation and should become the basis for participants in building an information society in Ukraine. It is important to solve the problem of providing participants and its subjects with complete and reliable information on all areas of activity to support management decision-making processes, promote statehood, increase productivity of social production of products and services based on large-scale use of information technology, growth of economic potential socio-economic and environmental conditions of human life. Of particular importance are marketing information flows, which depend on the system functioning of the enterprise and information interaction with suppliers and customers.*

The main components of info-communications in the system of innovation infrastructure at the national level are considered in the article. The necessity of development of info-communications in the system of innovation infrastructure is substantiated. The financial, marketing and digital components of info-communication, which will ensure the development of the national economy, are analyzed. The strategy of info-communication development in accordance with the principles of digital technology reform is considered.

Conclusion. *These strategic objectives of creating a modern innovation system, which will include technology and science parks, venture funds, technology transfer networks, etc., require the introduction of public-private (public-private) partnerships in the innovation sphere and should be aimed at legislative establishment of incentives for new industries, as well as companies in the field of info-communications.*

Key words: *info-communications, technological development, use of information technologies, innovation infrastructure, info-communication space, info-communication financing.*

Problem statement and its connection with important scientific and practical tasks. *In today's dynamic environment, the role of info-communications is changing dramatically, and the methods and technologies used are being modified and improved accordingly. Modern info-communication space allows active cooperation between the public and private sectors, government and business, and most importantly at the level of the national economy, the economic and financial space is developed through info-communications.*

In the current conditions, the development of the info-communication sphere as a component of the innovation infrastructure of the national economy is the key to the successful operation not only of any enterprise but also of the state as a whole. It is obvious that info-communication technologies make it possible to significantly increase the efficiency of solving various marketing, financial or digital tasks. The development of info-communication technologies and their mass introduction is a necessary condition for the development of a modern dynamic society.

Analysis of recent publications on the problem. Increasing the level of development of the info-communication sphere at the macroeconomic level is a complex task, the solution of which requires the general support of society as well as from the state, business entities and interested citizens. The works of foreign and domestic scientists are devoted to the development of the info-communication sphere, among which it is necessary to highlight. Significant scientific achievements have been made by modern scientists: Bezverkhy K.V., Bezugla K.O., Buzak N.I., Dulskaya I.V., Zhuk V.M., Kovalchuk T.T., Marko I.Y., Marko E.I., Mnykh, E.V., Pankova K.V., Peleshko N.M.

Allocation of previously unsolved parts of the general problem. Despite the adoption of the Law of Ukraine «On the National Informatization Program» [7], the degree of development of the issues of development and improvement of info-communication of Ukrainian society still remains uncertain. Currently, there is almost no comprehensive research on the features of info-communication in the system of innovation infrastructure of the national economy.

The development of info-communications in the country and the introduction of new technologies in all spheres of public life, the activities of executive bodies and local governments, business, households are considered as priority areas of public policy. The market of info-communications is in a state of active formation and should become the basis for participants in building an information society in Ukraine. Here the need to solve the problem of providing participants and its subjects with complete reliable information on all areas of activity to support management decision-making processes, promote statehood, increase productivity of social production of products and services based on large-scale use of information technology, growth of economic potential, improving the socio-economic and environmental conditions of human life. Most modern research on the process of info-communications and the creation of the information society has a different attitude to the role of the information factor in the socio-economic development of Ukraine and does not fully consider its impact on the development of innovation infrastructure. Therefore, research in this area is relevant and requires further scientific solutions.

Formulation of research objectives (problem statement). The purpose of the article is to consider and analyze marketing, financial and digital technologies that affect the development of info-communication as a component of innovation infrastructure.

An outline of the main results and their justification. Recently, there has been a negative trend towards a sharp lag of the domestic economy from the level of economies of developed countries in the field of info-communications, technological development and productivity, which is caused by low efficiency of incentives to develop innovation infrastructure. As a result, there is a significant risk of restraining the development of the info-communication sphere as a component of the innovation infrastructure.

The basis for the formation of info-communication are marketing, financial and digital technologies that allow the development of technopolises, technology parks, innovation centers and more. The info-communication sphere is a powerful tool for influencing the development of an individual enterprise, industry, or the state as a whole [4]. Computing and communication equipment, telecommunication networks, databases and databases, information technologies, system of information-analytical centers of various levels, production of technical means of informatization, systems of research institutions and training of highly qualified specialists are components of national information infrastructure and main factors provide economic prosperity. As the experience of other countries shows, the use of information technology contributes to national interests, improving economic governance, development of knowledge-intensive industries and high technologies, increasing productivity, improving socio-economic relations, enriching spiritual life and further democratization of society.

The national information infrastructure, created taking into account world trends and achievements, will promote equal integration of Ukraine into the world community [2].

Scientist Bezugla K.O. [2] in its research analyzes the current state of the information technology sector in Ukraine, based on the most authoritative international assessments of the degree and prospects of information society in Ukraine.

Bezverkhy K.V. argues that improving the management of the economy in market conditions, measures to reform its subjects, require the creation of an effective system of information management of

production costs of the enterprise and the search for new approaches to solving the improvement of the accounting mechanism [1].

In his research, N.I. Buzak focuses on the problems identified in the analysis of accounting systems and cost control for the introduction of information technology, namely: the unsuitability of cost classification to build a system of information management of IT projects, inconsistency of planning and accounting models; lack of methods of generalized information formation in the accounting system; lack of clear delineation of costs for the introduction of information technology between the structural units of the enterprise in accounting; lack of effective methods of financing IT projects; imperfection of the control system; making it impossible to motivate and evaluate the activities of employees of the enterprise [3].

Research Zhuk V.M. devoted to the methodological aspects of accounting for intellectual capital in the agricultural sector of the economy. In the scientific achievements of VM The beetle claims that due to intellectualization in agriculture, significant achievements have been made in the field of biotechnology, genetics, breeding, cybernetics. Problematic issues of intellectual capital accounting methodology in the domestic agricultural sector are in particular: the presence of unrepresented in the balance sheet of intellectual property, uncertainty of useful life, lack of documentation system for the commercialization of intellectual capital, misinterpretation of the legal and economic essence of this capital, ambiguity indicators for accounting purposes, the lack of methods of inventory (identification) of rights to intellectual property and the debatable nature of the depreciation of such objects, etc. [6].

The influence of marketing technologies on the development of info-communications as a component of innovation infrastructure is considered by the famous scientist K.V. Pankova, who believes that the main purpose of the marketing info-communication system is to find methods of collecting, processing and systematizing information in terms of components of marketing activities of the enterprise as a participant in economic relations and its internal economic processes, the effectiveness of which is directly related to the marketing concept. Therefore, the elements of the system of marketing information should, on the one hand, reflect the sequence of organization of marketing activities in the machine-building enterprise, on the other – to direct it to achieve the goals [11].

The process of marketing management is based on information that is essentially part of the info-communication sphere, its development depends on the degree of use of modern advances in computer science and cybernetics. Marketing technologies in the field of info-communication will allow to substantiate effective management decisions taking into account the real market situation and potential investment and innovation opportunities. Marketing technologies in the field of info-communication should be directly related to the management system, the central task of which is the task of regulation. At the same time, an important task of information support of marketing activities is the conditions for structuring marketing data, where the key position is to develop solutions for concentration and distribution of information at the enterprise level, within which information of strategic and predictive nature for innovative development. Of particular importance here are marketing information flows, which depend on the system functioning of the enterprise and information interaction with suppliers and customers. The allocation of such a separate component of the information sphere as marketing orientation will shift the emphasis on information support for the formation of relations with public authorities, tax, executive bodies, as well as buyers and sellers.

In addition, the activities of enterprises also use digital and financial and economic elements, which for integration and effective management require information interconnection and appropriate information space, which will centrally manage the range, volume and sales of products, trade flows, market monitoring, coordinated development of relations with suppliers and buyers. This confirms the high relationship between the effectiveness of marketing transactions and the level of their information support, which is determined by the ability to accumulate and actively use integrated information resources.

Well-known scientists in the direction of informatization T.T. Kovalchuk, I.Yu. Marco, E.I. Marco argues that it is economic information that determines the process of design, planning, coordination, control of necessary and mature types of economic business, which, subject to strategic goals and priorities of the state aimed at meeting macroeconomic and social needs [8]. Also, they claim that the generally accepted fact is the interdependence between the pace and level of development of information technology and financial and economic prosperity of the country. But this happens when information is used as a necessary and important macroeconomic resource, develops and strengthens the market of economic information. Underestimation of the importance of comprehensive development of the economic information market or incorrectly chosen strategy of informatization and introduction of telecommunication and Internet technologies dooms such a state to a chronic lag and a sharp decline towards the level of the global periphery [8].

E.V. Mnykh, H.M. Peleshko believes that the additional "costs of implementing information technology and systems are justified by the new quality and effectiveness of marketing policy. Only systematic integrated assessments are sufficient to determine the behavior of economic entities in the face of resource constraints. On the other hand, the monitoring of resource constraints involves the search for alternative economic projects that maximize the outcome of the mobilization of the economic potential of these entities" [10].

An important scientific and analytical contribution to the research and analysis of digitalization was made by scientist I.V. Dulcka, who conducts an in-depth comprehensive analysis of budget expenditures on digitalization, and who emphasizes that with the intensification of regional decentralization there is a question of determining the sources of financial support for digitization of basic industries in the regions [5].

In the process of info-communication, all subjects of the socio-economic system actively cooperate, because it significantly contributes to the intensity of social production, welfare, quality of life. However, in this process the most important function is performed by the state, because by actively implementing, regulating and protecting the state contributes to more effective interaction between its units, citizens, businesses, and provides innovative development of basic sectors of the economy. However, it is very difficult to estimate the real costs of citizens, businesses and the state at all levels, as the level of disclosure of information is very low [15].

Agreeing with the opinion of I.V. Dulcka, that the share of state expenditures through central executive bodies directly working in the info-communication environment are insignificant compared to central executive bodies responsible for sectors that have priority budget funding - health care, education, culture, agriculture and infrastructure sectors, as evidenced by Table 1.

Table 1

Expenditures of the State Budget for the info-communication sphere in 2017-2019

Central executive bodies	UAH million		
	2017	2018	2019
The state budget, of which	841402,8	991930,7	1112130,0
State Agency for e-Government	249,0	151,5	48,4
National Commission for State Regulation of Communications and Informatization	61,6	97,3	86,6
Administration of the State Service for Special Communications and Information Protection	2027,9	2338,5	2925,4
Ministry of Information Policy	261,8	862,1	5456,4
Ministry of Culture	4282,8	6420,8	6989,8
State Committee for Television and Radio Broadcasting	1473,5	863,0	1097,9
National Council on Television and Radio Broadcasting	47,6	104,9	124,9
State Agency for Cinema	516,0	520,7	521,2
Ukrainian Institute of National Memory	26,7	62,9	127,3
State Special Transport Service	498,0	564,7	801,3
Ministry of Agrarian Policy and Food	9442,3	12075,7	13858,1
Ministry of Infrastructure	916,9	3234,4	3050,6
State Agency for Infrastructure Projects	2,0	10,6	2106,6
State Service for Geodesy, Cartography and Cadastre	1108,8	1902,3	1705,3

Source: [5].

Unfortunately, these data indicate a sharp decrease in budget expenditures on the State Agency for e-Government, which is an extremely unsatisfactory indicator. But also positive is the fact that other expenditures of the State budget for central authorities in the field of information and communication. But their significant reduction will only cover inflationary depreciation and maintenance costs in both 2018 and 2019.

The info-communication sector should more than double GDP growth over the next decade, as new technologies begin to account for a large share of the market. The largest costs will be accounted for by telecommunications technology and new technologies. Over the next 5 years, the growth of traditional technology costs will depend on four types of platforms: cloud, mobile, social and big data / analytics. At the

same time, the cost savings created by the cloud and automation will increase investment in new technologies such as artificial intelligence (AI), robotics, AR / VR.

The share of next-generation security technology costs will also continue to rise. Despite the trend of rapid growth of ICT, there are a number of issues related to the complexity of their implementation. Among the main barriers are: high costs for the development of new technologies, problems in the field of cybersecurity, lack of necessary infrastructure or poorly established connections between its elements, immaturity and unpredictability of some technologies, lack or imperfection of the legal framework to regulate processes. related to the use of ICT (eg, blockchain) [12].

The expected benefits of the use of infocommunication technologies in the production process and everyday life include: increasing the efficiency of "big" data processing, optimization of production processes and their automation, transition from traditional data centers to centralized cloud counterparts, increasing computing capacity of modern supercomputers, new opportunities devices of the "smart" house, connection to the network of hard-to-reach regions, increasing the capacity of media and reducing the cost of data storage [12].

According to the data provided by international consulting agencies, the following global technological trends are distinguished in the field of info-communication:

- development of artificial intelligence technologies;
- cloud computing;
- robotics;
- intellectual things (including the Internet of Things);
- intelligent applications;
- quantum and peripheral calculations;
- free space optics;
- silicon photonics technologies;
- augmented and virtual reality;
- 5G and 6G technologies;
- blockchain;
- fintech technology;
- digital ecosystems.

According to analytical companies, the largest market will be artificial intelligence technologies. According to analytical modeling conducted by the McKinsey Global Institute in late 2018, artificial intelligence could make an additional contribution to annual GDP growth of 1.2% for at least the next decade. By 2030, artificial intelligence could provide additional global economic activity of \$ 13 trillion, which will increase its ubiquitous contribution to the entire industry along with the introduction of other transformative technologies. Today, the contribution of artificial intelligence technologies to world GDP is about \$ 1 trillion [12].

Analysts also estimate that about 70% of companies worldwide will introduce at least one form of artificial intelligence by 2030 as part of the expansion of their activities, and many large enterprises will use the full range of existing innovations to strengthen existing businesses.

Cloud computing is divided into three categories: infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS). Today, the largest segment of the cloud industry is SaaS and, according to forecasts, this trend will continue in the future.

In 2017, the global SaaS market amounted to \$ 104 billion. According to experts, by 2027 it will grow to \$ 346 billion, and the average annual growth rate will be 25.9%.

In addition, market development forecasts indicate that by 2022 the growth of the cloud robotics market will be more than 20% and the volume of the cloud robotics market will grow to \$ 21.78 billion by 2022.

The 5G services market is expected to grow from \$ 53.93 billion in 2020 to \$ 123.27 billion by 2025, with an overall annual growth rate of 18% over the forecast period. It is expected that the growing demand for reliable communication services with minimal delays and growth trends in the field of interconnection will allow the 5G market to continue to expand.

The volume of the market for smart applications in 2017 amounted to \$ 7.33 billion, and by 2023, according to forecasts, it will reach \$ 46.98 billion, an increase in the overall annual growth rate of 32.9% over the forecast period. The main factors in the growth of the market for smart applications are the growing number of smartphone users around the world, the growing introduction of artificial intelligence technology and the growing trend of advertising based on mobile applications [12].

Thus, the development of innovation is one of the most important systemic factors in increasing the level of competitiveness of the economy and national security. Info-communication technologies play a special role in this case.

Thus, the strategy of sustainable development of the state until 2020 provides for sustainable economic growth on the basis of structural reforms under the vector of "Innovation Development Program" to strengthen the institutional capacity of innovation infrastructure, which is based on the field of info-communications. The strategic program provides that a necessary condition for the development of digitalization of society is the ability to connect its subjects to the Internet [14]. However, with the current steady pace of digitalization, connecting to the Internet is not enough. In order to get the most out of the full range of features on the Internet, you need to have broadband access (broadband). According to the "Strategy 2020", the implementation of the national strategy for the further development of the information society in Ukraine as an innovative society involves:

raising public awareness of computer technology, and the possibility of their widespread introduction and use in the socio-cultural sphere and other sectors of the economy through the development and implementation of relevant sectoral and intersectoral programs;

minimization of digital inequality in access of citizens of Ukraine to electronic communications and information resources as "first level" (access of new users) and "second level" (access of existing users), which is associated with the socio-age gap due to low incomes, especially certain categories of citizens, and the geographical and cultural gap, which requires the implementation of a compensation mechanism (subsidies) to operators for connection at affordable prices, taking into account the level of income, etc.

According to the "Strategy 2020", the institutional and technological level is aimed at creating a holistic legal system for [14]:

obligations (regulatory) to provide universal services to the telecommunications operator with a significant market advantage not only in the field of fixed communications, but also mobile communications and high-speed Internet access, taking into account the principle of "technological neutrality";

introduction of mechanisms for the development of the industrial Internet market on the basis of the development of industry standards to ensure the acceleration of harmonization of national legislation with the legislation of the European Union;

improvement of mechanisms for protection of the rights of consumers of telecommunication services in case of termination of activity of operators, telecommunication providers.

At the administrative and economic level, the creation of national digital information resources involves [14]:

reduction of barriers to entry through cumbersome procedures for entering the telecommunications market based on improved licensing in the field of telecommunications;

improvement of mechanisms of supervision (control) in the field of telecommunications, aimed at preventing violations and reducing potentially possible pressure on business entities;

strengthening information security and cybersecurity on the basis of doctrines and international certificates in the field of information security management;

development of e-government on the basis of the program for the provision of electronic administrative services.

Thanks to digital information resources, there is an active exchange of data between such objects as: state-business, state-citizen, state-state. There is a list of services required to be provided online under the EU Directive. For business, these are social contributions of employees, corporate tax, VAT, registration of a new company, submission of statistical information, customs declarations, environmental permits, public procurement. For citizens, the list is more extensive – PIT, job search, social benefits, personal documents, car registration, public libraries, application to the police, application for a building permit, marriage and birth certificates, applications for admission to universities, change of address, health services.

The Sustainable Development Strategy in Ukraine is implemented and operates in accordance with the principles of reforming the digital communications sector of the EU:

1. Facilitating the development of competition and the possibility of introducing, if necessary, the national regulatory body functional distribution in the served infrastructure and services provided.

2. Improving regulation by reorganizing the retail and wholesale markets for electronic communications and services.

3. Strengthening the internal market and integration into European rules through coordination of regulation in EU member states.

4. Improving consumer protection by expanding the range of consumer rights of electronic communications services: openness of price information; facilitating the transition of customers from one service provider to another; facilitating access to electronic communication services for people with disabilities; the obligation of operators to inform their customers in the event of a risk of disclosure of personal customer data; fight against spam, spyware, etc. [13].

Conclusions and perspectives of further research. Thus, the identified strategic objectives of creating a modern innovation system, which will include technology and science parks, venture funds, technology transfer networks, etc., requires the introduction of public-private (public-private) partnerships in the innovation sphere and should be aimed at legislatively establishing incentives for new industries, as well as companies in the field of info-communications. Thus, through the introduction of effective incentives for the development of info-communications and increase its competitiveness in the world market in order to move to an innovative path of development and ensure the transformation of state innovation policy by accelerating the introduction of info-communications technologies and development of national information resources. Therefore, the need to develop the field of info-communications is one of the priorities in the development of innovation infrastructure, the effective operation of which guarantees the interaction of subjects and objects of innovation, as well as access to various information resources, which, in turn, will increase efficiency innovation potential of the country.

ЛІТЕРАТУРА

1. Безверхий К.В. Непрямі витрати в системі управління промислових підприємств: обліково-контрольний аспект: монографія. Київ: Центр учбової літератури, 2013. 276 с.
2. Безугла К. О. Інформаційно-комунікаційні технології як фактор інноваційного розвитку економіки. *Економіко-математичне моделювання соціально-економічних систем*. 2013. Вип. 18. С. 42-55. URL: http://nbuv.gov.ua/UJRN/emmses_2013_18_5.
3. Бузак Н.І. Облік і контроль затрат на впровадження сучасних інформаційних технологій : автореф. дис. ... к.е.н. : спец. 08.00.09 – бухгалтерський облік, аналіз та аудит (за видами економічної діяльності) К., 2009. 20 с. URL www.nbuv.gov.ua/ard/2009/09bnisit.zip.
4. Дерій В.А. Облік і аналіз витрат підприємства на інтелектуалізацію, інформатизацію та інформацію. *Вісник ЖДТУ*, 2014, № 3 (69). С. 50-56.
5. Дульська І.В. Бюджетне забезпечення цифровізації у рамках е-урядування в Україні. *Економіка і прогнозування*, 2019. № 1. С. 51-69.
6. Жук В.М. Концепція розвитку бухгалтерського обліку в аграрному секторі економіки: монографія. Київ : ННЦ ІАЕ, 2009. 648 с.
7. Закон України «Про національну програму інформатизації» URL: <https://zakon.rada.gov.ua/laws/show/74/98-%D0%B2%D1%80#Text>.
8. Ковальчук Т.Т., Марко І.Ю., Марко Є.І. Сучасний інформаційний ринок (концептуально-пізнавальний контекст): монографія. Київ: Знання, 2011. 255 с.
9. Коваль В.В., Толкачева Г.В., Небога Т.В. Стратегічні орієнтири сфери інфокомунікацій як складової національної інноваційної інфраструктури. *Проблеми економіки*. № 1, 2017, С. 89-93.
10. Мних Є.В. Пелешко Н.М. Науковий рівень аналітичного забезпечення креативного менеджменту. *Економічні науки. Сер. "Облік і фінанси"*. 2012. Вип. 9 (2). С. 425-431.
11. Панькова К.В. Маркетинг як нова сучасна концепція управління, напрями його інформаційного забезпечення. *Competitiveness: economics, marketing, management: Collective monograph*. С.Е.І.М., Valencia, Venezuela, 2016. С. 30-38.
12. Писаренко Т.В., Кваша Т.К., Рожкова Л.В. Стан інноваційної діяльності та діяльності у сфері трансферу технологій в Україні у 2018 році. *Аналітична довідка*. Київ, УкрІНТІ, 2019 р. 80 с.
13. Розпорядження Кабінету Міністрів України “Про схвалення Концепції розвитку цифрової економіки та суспільства України на 2018–2020 рр.” від 17.01.2018 р. № 67-р. URL: <https://www.kmu.gov.ua/ua/npas/pro-shvalenny>.
14. Стратегія сталого розвитку України 2020. URL: <https://zakon.rada.gov.ua/laws/show/5/2015#Text>.
15. Яценко М.С. Інфокомунікації як чинник соціально-економічного та науково-технічного розвитку України та її регіонів у контексті розбудови інформаційного суспільства. *Економіка: реалії часу*, 2012. № 1 (2). С. 143-146.

REFERENCES

1. Bezverkhyj K.V. (2013) *Neprijami vytraty v systemi upravlinnja promyslovykh pidpryjemstv: oblikovokontroljnyj aspekt: monohrafija*. Kyjiv: Centr uchbovoji literatury [in Ukrainian].
2. Bezughla K.O. (2013) Informacijno-komunikacijni tekhnologhiji jak faktor innovacijnogho rozvytku ekonomiky. *Ekonomiko-matematychnje modeljuvannja socialjno-ekonomichnykh system*. Vol. 18., pp. 42-55. Retrieved from: http://nbuv.gov.ua/UJRN/emmses_2013_18_5 [in Ukrainian].
3. Buzak N.I. (2009) Oblik i kontrolj zatrat na vprovadzhennja suchasnykh informacijnykh tekhnologhij : avtoref. dys. ... k.e.n. : spec. 08.00.09 – bukhghaltersjkyj oblik, analiz ta audyt (za vydamy ekonomichnoji dijalnosti). Retrieved from: <http://www.nbuv.gov.ua/ard/2009/09bnisit.zip> [in Ukrainian].
4. Derij V.A. (2014) Oblik i analiz vytrat pidpryjemstva na intelektualizaciju, informatyzaciju ta informaciju. *Visnyk ZhDTU*, Vol. 3 (69), pp. 50-56 [in Ukrainian].
5. Duljsjka I.V. (2019) Bjudzhetne zabezpechennja cyfrovizaciji u ramkakh e-urjaduvannja v Ukraini. *Ekonomika i prohnozuvannja*. Vol. 1, pp. 51-69 [in Ukrainian].
6. Zhuk V.M. (2009) *Koncepcija rozvytku bukhghaltersjkocho obliku v aghrarnomu sektori ekonomiky: monohrafija*. Kyjiv: NNC IAE [in Ukrainian].
7. Zakon Ukrainy «Pro nacionaljnu prohramu informatyzaciji» Retrieved from: <https://zakon.rada.gov.ua/laws/show/74/98-%D0%B2%D1%80#Text> [in Ukrainian].
8. Kovaljchuk T.T., Marko I.Ju., Marko Je.I. (2011) *Suchasnyj informacijnyj rynek (konceptualjno-piznavaljnyj kontekst): monohrafija*. Kyjiv: Znannja [in Ukrainian].
9. Kovalj V.V., Tolkacheva Gh.V., Nebogha T.V. (2017) Strateghichni orijentyry sfery infokomunikacij jak skladovoji nacionaljnoji innovacijnoji infrastruktury. *Problemy ekonomiky*. Vol. 1, pp. 89-93 [in Ukrainian].
10. Mnykh Je.V. Peleshko N.M. (2012) Naukovyj rivenj analitychnogho zabezpechennja kreatyvnocho menedzhmentu. *Ekonomichni nauky. Ser. "Oblik i finansy"*. Vol. 9 (2), pp. 425-431 [in Ukrainian].
11. Panjkova K.V. (2016) *Marketyng jak nova suchasna koncepcija upravlinnja, naprjamy jogho informacijnogho zabezpechennja. Competitiveness: economics, marketing, management : Collective monograph*. C.E.I.M., Valencia, Venezuela [in Ukrainian].
12. Pysarenko T.V., Kvasha T.K., Rozhkova L.V. (2019) *Stan innovacijnoji dijalnosti ta dijalnosti u sferi transferu tekhnologhij v Ukraini u 2018 roci*. Analitychna dovidka. Kyjiv, UkrINTI [in Ukrainian].
13. Rozporjadzhennja Kabinetu Ministriv Ukrainy “Pro skhvalennja Koncepciji rozvytku cyfrovoji ekonomiky ta suspiljstva Ukrainy na 2018–2020 rr.” vid 17.01.2018 r. # 67-r. Retrieved from: <https://www.kmu.gov.ua/ua/npas/pro-shvalenny> [in Ukrainian].
14. Strateghija stalogho rozvytku Ukrainy 2020. Retrieved from: <https://zakon.rada.gov.ua/laws/show/5/2015#Text> [in Ukrainian].
15. Jacenko M.S. (2015) Infokomunikaciji jak chynnyk socialjno-ekonomichnogho ta naukovotekhnichnogho rozvytku Ukrainy ta jiji rehioniv u konteksti rozbudovy informacijnogho suspiljstva. *Ekonomika: realiji chasu*. Vol 1 (2), pp. 143-146 [in Ukrainian].