

**РОЗДІЛ 3**  
**Наукові повідомлення**

**Management of Digital Information Technologies  
in Digital Economy**

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The problem of managing digital information technologies in the context of intensified transformation of the economy into a digital one is considered in the article. The tasks of “digitization” of the economy, business environment, socio-cultural relations in modern society are extremely urgent and complex. By and large, Ukraine is just starting to move in that direction. Given the importance and complexity of the tasks, both tactical and strategic, unfolding before economic agents in the study the definitions of “digital economy” and “digital information technology” are offered. The definition of “management of digital information technologies” and the main components of this process are offered. The state of integration of digital technologies in the business processes of enterprises in the European Union countries with the most advanced digital economy is analysed within the study. It was found that digital technologies are sufficiently used in every country, while most people have basic or higher than basic digital skills when conducting research. It has been determined that the main driver for business digitization and integration of digital information technologies into business processes is management staff with relevant competencies, experience, knowledge, skills. Staff (staff, contractors, stakeholders) must have competitive digital skills and skills to manage digital information technology, integrate them into business processes, practical, scientific and engineering consultancy, in particular to develop companies' digital strategies, recruitment and information and communication technology staffing he has tasks to digitize his business. A sufficiently high level of digitalization and integration of digital information technology into the business processes of enterprises is more likely provided by the priority role of managers in these processes, which have sufficiently high digital skills than information and communication technology employees (without denying their role in management decisions).

*Keywords:* digital economy, management of digital information technologies, digital skills, digital information technology, management, staff, competence, skills, business environment.

*Abbreviations:*

ICT – information and communication technology;  
DIT – digital information technology.

*УДК* 338.2:004.9

*JEL Codes:* D80, L86, O39, Q55

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**Introduction.** The economic activity is closely associated with significant amounts of

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diverse information. Consequently, the issue of effective work with it, including time minimization, has been and continues to be relevant. The current stage of its solution connects with the use of DIT. They provide an opportunity to quickly obtain the necessary information for making timely decisions, effective managing of business processes, and creating a competitive product. DIT influence on the transformation and formation of a business model in general. However, the degree of DIT utility for business and society depends on their quality management.

**Problem statement.** A lot of the world attention is paid to research the problems related to the creation and use of DIT in the economy and society as a whole. Their importance in education, the formation of a human person, and health care is considered.

DIT is considered as a tool, which allows creating new business models, which help transform the whole industries [1, p. 47]. Researchers admit that digital technologies change the way people interact in society, as well as economic relations based on new ways of cooperation and coordination to solve tasks collaboratively. As a result of the digitalization of society, a need to build “qualitatively new management models based on modern digital technologies” may emerged [2]. Electronic platforms are considered to be an important element of the digital economy, based on DIT. They are presented as “a set of registers of subjects and objects of various communications (consumers, manufacturers, services, etc.), algorithms of their interaction and storage, online transactions carried out between them [3]. The author notices that digital technologies influence on human resource management. They can form a competitive advantage of an enterprise and eliminate routine processes in human resource management [4]. Considering the problems of the digital economy development in Ukraine, researchers associate it with the need to use new “electronic development technologies” in business, management, and public life. Special attention is paid to the “development of the educational component of the digital economy” [5]. It is noted that digital technologies influence on innovation development, for example, they contribute to the electronic commerce development [6].

Creative and successful business projects involve the use of digital technology. They affect the labor market and the type of people’s skills, and contribute to productivity growth. Researchers also note their effectiveness in business, financial and communication services, logistics, and electronic commerce [7].

The problem of the digital economy development, the development and use of digital information technologies, their impact on transformation of the economy and society was highlighted in research work to such researchers: A. Vishnevsky [3], Yu. Vdovichenko [26], O. Gudz [11], Ya. Gapanovich [5], O. Goloborodko [12], V. Dannikov [7], S. Ivanov [3], V. Zhukovska [4], O. Kupriyanovsky [6], S. Kolyadenko [23], N. Korovaychenko [24], N. Kraus [12], K. Kraus [12], V. Orlov [5], K. S. Pugachevska & K. Yo. Pugachevska [2], K. Sichkarenko [7], S. Shcheglyuk [10], R. Atkinson [1], D. Chen [15], A. Mckay [1], T. Mesenbourg [8], D. Tapscott [25], Z. Zhou [15], S. Xie [15]. However, the management of business process digitalization, which is carried out on the basis of DIT, requires additional research.

**The purpose** is to determine the essence of DIT management and the role of management staff in business digitalization based on their use in the digital economy.

**Results of the research.** Information technology (IT) is one of the most ancient and important technologies of humanity. The evolution of human society has led to the evolution of information technology, improving one way or another of its stages: receiving information, its preserving, processing, transmitting and using. The emergence of computers and

development of computer technology provided revolutionary changes to each of them and contributed to the digital economy development.

Information technologies are developed and implemented for a specific subject area. When it comes to the digital economy, such IT serve to improve economic processes and relationships, especially for business. What they should be? For what they should be specifically used? How do they contribute to the economy? The answer is possible through understanding the essence of digital economy, which is often interpreted differently.

It is expedient to refer to three components offered by T. Mezenburg to describe the digital economy: supporting infrastructure (computer equipment, computer programs, networks and telecommunications), electronic business (business through computer networks), and electronic commerce (transfer (exchange) of goods or services) [8]. However, e-business and e-commerce cannot be carried out only due to the presence of such infrastructure components. DIT is needed, due to which they can be involved. Such a set of components should be driven by effective management.

The digital economy is defined as “that part of economic output derived solely or primarily from digital technologies with a business model based on digital goods or services” [9].

Digital economy is offered to consider “a type of economy, which is characterized by the predominant role of data and methods of their management as a determining resource in production, distribution, exchange and consumption” [2]. However, the data (information) have always been and continues to be the main resource for any economy where they are managed using information technologies.

Digital economy is considered as a part (individual sectors) of the economy, which relies entirely on digital technology [7]. Rather, it is not the essence of the economy as a whole, but a characteristic of its current state in most countries.

It has been argued that “digital transformation of business means dematerialization of the economy”, while “technological platforms are the main business unit and business model of the digital economy” [10]. Does this mean that there will be no material objects and means of labor, while the enterprises will not produce products of material form (cloth, shoes, computers)? Is a single-type business model typical of a competitive economy?

In fact, “the digital era changes the way of business doing, as well as the requirements for the information technology used” [11].

But the digital economy is not a new attitude to consumers, because customer focus was and still is the rule of business and its mission, which is transformed into the task of an activity.

A client does not “become the main during the economic activity” [12] in digital economy, but he or she has always been and continues to be the one for any business.

Digital economy is an economy characterized by a new vision of business processes, new approaches to the human relationship in economic processes and to creation of business models due to digital information technologies, which use computer networks among all.

An economy becomes digital as a result of active creation and widespread introduction of digital information technologies used to shape and meet consumer demand.

Concerning the digital economy, it is expedient to use the more accurate term “digital information technology”, not just “digital technology”.

Digital information technology is a set of processes for obtaining information (information resources), its storage, transmission, processing and use through software and hardware (computer equipment, network equipment, software) and telecommunications. It is used to

form the information base of information systems of economic entities, transform into information products, and provide information and other services [13].

But, perhaps, the opinion of Academician V. M. Glushkov should be taken into account, as he noted that the active use of computer technology in the implementation of information technology does not exclude its traditional forms and methods. It is inappropriate to reduce the information work completely to the information process computerization, as well as to ignore previous experience and preferences of a human mind at certain stages of the information technology implementation. Automation of information technology leads to paper media displacement, but these processes should have reasonable limits [14].

DIT in the digital economy is not just automation of existing business processes, assistance in creating additional lines of business through the Internet. They provide and/or condition the change in a business model of an enterprise, the vision and philosophy of its activities towards digital transformation. This may include the elimination of some processes or their qualitative change, or the emergence of new processes.

Digital information technologies are increasingly associated with collecting and processing the data about people to study and shape their demand based on their needs. This is not entirely true.

Digital information technologies may yield the best results, particular in the following components and business processes: a deep understanding of customer needs and improvement of customer service; optimization and acceleration of marketing and sales decisions; analysis and improvement of consumer interaction with a brand; faster and more informed decision-making process; provision of quick ways to accomplish tasks; introduction of a faster and more flexible corporate culture; integration of various business functions to ensure internal collaboration; tracking and reporting of real-time key performance indicators.

The system of searching for goods (services), customer service and mutual settlements, which is based on digital information technologies, saves time for purchases, simplifies calculations, speeds up the sales process, and reduces costs.

The use of digital information technologies has allowed improving the information system of business structures and has become a powerful engine of progress in the information exchange in business-business, business-man, government-man, government-business, etc. In addition, these technologies allowed to save a significant amount of information and ensured its protection and speed of processing.

DIT does not necessarily require the Internet use. They are also used to improve maintenance and repair management capabilities. "Digital technology has gradually been integrated into the lifecycle of product manufacturing, traditional manufacturing will be transformed and the level of modern manufacturing will be upgraded through information and digital technology, and digitalization will be the indispensable driving factor for the whole product lifecycle in manufacturing." [15].

Digital information technologies are our reality and our future, but neither they nor big data analytics, nor separately the IT sector specialists cannot be solely an absolute guarantee of intensive economic development, in particular the digital economy development. The example of the LEGO company proves the dependence of business success on the management decision correctness, not on the results obtained by IT specialists due to DIT [16].

It is often possible to consider, hear and read that the digital economy development is determined by the degree of DIT development, the number of highly qualified IT specialists, and the degree of accessibility to the Internet. Clearly, they form its basis, which made the

economy digital. However, as an economy (from Greek οίκος – “household” and νέμωμαι – “manage”) is economic management, then management and managers with well-developed digital skills are the drivers of the digital economy.

“In order to make information technologies beneficial, a certain maturity of management, company, society as a whole is important. Any digital tools are beneficial when they are used effectively and for their intended purpose. Understanding of the opportunities offered by innovation and the ability to get benefit from them are the main components of success of digital transformation at all levels” [17].

The IT sector uses all available tools to study the problems of business and individuals to maximally meet their needs.

Managers as a consumer have a priority, because they do not only set tasks to digitize the needs of business processes. They manage DIT, hire the appropriate employees to develop (adjust, select) digital information technologies, manage all the processes of their introduction and further implementation. They should do it right, forming a digital strategy, even possibly a digital business model in accordance with the digital strategy.

Management of DIT is a process aimed at their identification, development, improvement, use and protection to ensure effective business operations in the digital economy. This process consists of:

- audit of business processes (business models);
- development of a digital strategy;
- organization of DIT creation;
- implementation and improvement;
- management of efficient use;
- control over the creation, implementation and use;
- protection management.

The components of the DIT management are:

- management and IT staff;
- technology of business processes;
- DIT processes and operations.

The decision on the selection of data, the selection and use of tools, methods and methods of working with information flows and arrays is based on a clear understanding of the essence of economic processes and relations, an objective justification of the need for a specific digital information technology. It is important for the IT sphere to take this into account in order to be closer to the end users: business entities or individuals.

In a digital economy, business entities need to develop a digital strategy, a closer link with the IT sector (division). This sector uses digital information technologies for in-depth research of pain points of consumers and business entities, offers solutions to their problems to improve business, to meet consumer demand.

Representatives of the ICT sphere, working for the population, have already made significant progress in this direction (Google, Facebook). They largely own the tools and methods to form a “digital” business model and strategy.

Managers of business entities should clearly understand what is “digital” and define a digital strategy, which will then be implemented through the introduction of digital information technology, close cooperation of business and ICT sphere. In particular, two areas of such cooperation can be identified:

- business entities are direct customers, that is, they know exactly what and what digital information technologies should be used (set tasks);

- business entities are well aware of their business processes and business problems, they have a business strategy, and they reflect on tactics. This is the part of the business, the needs of which should be especially studied by representatives of the ICT sector in order to offer them information technologies for digital transformation.

Countries pay significant attention to the digitalization of an economy, in particular, to the integration of digital technologies in business processes. Its rating is included in the Digital Economy and Society Index (DESI) and carried out in two ways: “business digitisation”, “eCommerce”, combining a number of indicators [18]. “Business digitization” is evaluated by the following indicators: electronic information sharing, social media, big data analysis and cloud solutions. They are calculated as the percentage of enterprises using these possibilities. e-Commerce includes indicators: the percentage of small and medium-sized enterprises (SMEs) selling online, e-commerce turnover as a percentage of total turnover of SMEs, and the percentage of SMEs selling online cross-border [19].

A general assessment of the level of integration of digital technology in EU countries has shown that this process should be continued and intensified. Only 34 % of enterprises (excluding financial sector) use an ERP (enterprise resource planning) software to share information between functional areas (Table 1). Two or more social media (social networks, enterprise's blog, multimedia content sharing websites, wiki-based knowledge sharing tools) are used by 21 % of EU enterprises. 12 % of enterprises analyse big data in their activities. Cloud computing services (hosting of the enterprise's database, accounting software applications, CRM software, computing power) are used by 18 % of EU enterprises. The percentage of small and medium-sized enterprises (SMEs) selling online is 17 %. E-Commerce turnover is small and makes up 10% of the total turnover. 8 % of SMEs make online cross-border sales [19].

*Table 1*

Integration of digital technology indicators (excluding financial sector), EU, 2019 [19]

Indicator	2019
Electronic information sharing, % of enterprises	34
Social media, % of enterprises	21
Big data, % of enterprises	12
Cloud, of enterprises	18
SMEs selling online, % SMEs	17
e-Commerce turnover, % SME turnover	10
Selling online cross-border, % SMEs	8

According to Digital Economy and Society Index Report 2019 (Integration of Digital Technology), Ireland is a leader on integration of digital technology. It is followed by the Netherlands, Belgium Denmark and Finland [19].

If considering each direction of integration of digital technology, the leaders have somewhat changed. E-Commerce solutions are introduced more actively in Ireland, Sweden, Denmark, Czech Republic, and Belgium. The Netherlands is the leader in “business digitisation”. The top five countries that actively use digital information technology include Finland, Belgium, Denmark and Ireland. Consider the indicators of integration of digital technology (the part of Digital Agenda key indicators) for Ireland, Netherlands, Belgium, Denmark, Finland in more detail (Table 2). In fact, DIT is actively used in each country. Even

among small and medium-sized enterprises (SMEs), 28 % to 48 % of enterprises have high levels of digital intensity. Most of them (from 66 to 86 %) use a website with interaction functions for customers and visitors.

Many SMEs use CRM systems to work with consumers (for example, 27 % of such enterprises is in the Netherlands) and electronic supply chain management. Most of them use ERP-systems for digitalization of internal business processes. Belgium has 53 % of such enterprises, the Netherlands – 47, Denmark – 39, Finland – 37, Ireland – 27.

*Table 2*

Digital Agenda key indicators of EU countries, 2018 [20]

Indicator	<i>Ireland</i>	<i>Netherlands</i>	<i>Belgium</i>	<i>Denmark</i>	<i>Finland</i>
1	2	3	4	5	6
Enterprises with High levels of Digital Intensity – SMEs (in % of enterprises)	28	36	26	48	48
Enterprises having a website with some sophisticated functionalities – SMEs (in % of enterprises)	66	82	67	68	86
Use of analytical CRM software – SMEs (in % of enterprises) *	26	27	26	22	22
Integration of internal processes with an ERP – SMEs (in % of enterprises) *	27	47	53	39	37
Electronic Supply Chain Management – SMEs (in % of enterprises) *	11	18	25	22	21
Enterprises using social media (in % of all enterprises) *	68	68	58	68	63
Cloud computing services (medium-high sophistication) (in % of all enterprises)	33	42	31	41	50
Enterprises selling online – Large enterprises (in % of enterprises)	47	30	59	56	51
Enterprises selling online – SMEs (in % of enterprises)	30	17	28	31	20
Enterprises providing portable devices to > 20% of their employed persons (in % of all enterprises) *	35	43	33	59	59
Persons employed provided with a portable device by their enterprise – All enterprises (in % of total employment) *	51	36	28	47	44
Persons employed using computers at work – All enterprises (in % of total employment)	54	69	59	75	72
Enterprises where ICT functions are mainly performed by external suppliers – Large enterprises (in % of enterprises)	31	35	33	27	38
Enterprises where ICT functions are mainly performed by external suppliers – SMEs (in % of enterprises)	56	60	61	58	49
Enterprises employing ICT specialists – Large enterprises (in % of enterprises)	81	79	86	85	85

Table 2 (continued)

1	2	3	4	5	6
Enterprises employing ICT specialists – SMEs (in % of enterprises)	31	26	26	26	24
Enterprises reporting hard-to-fill vacancies for ICT specialist – All enterprises (in % of enterprises which recruited/tried to recruit ICT specialist)	49	69	60	61	60
Enterprise provided training to their personnel to develop/upgrade their ICT skills (in % of all enterprises)	30	26	36	28	36
Individuals with basic or above basic digital skills – Employed and unemployed (in % of individuals *)	55	87	69	76	83
Regular internet users (in % of all individuals) *	79	94	86	95	92
Internet used in the last 3 months (in % of all individuals) *	81	95	88	97	94
Basic or above basic Digital Skills – Communication domain (in % of all internet users (last 3 months)) *	95	99	98	98	96
Basic or above basic Digital Skills – Information domain (in % of all internet users (last 3 months)) *	94	97	94	96	97
Basic or above basic Digital Skills – Problem solving domain (in % of all internet users (last 3 months)) *	87	97	90	98	98
Basic or above basic Digital Skills – Software for content manipulation (in % of all internet users (last 3 months)) *	61	84	72	74	81

\* Data 2017.

Enterprises in each country actively use social networks. The number of such enterprises in Ireland, the Netherlands and Denmark accounts for 68 % of all enterprises, in Finland – 63, Belgium – 58. Cloud services are exploited from 31 % (Belgium) to 50 % (Finland) of all enterprises.

Everything mentioned above contributes to the success of online sales. The number of large enterprises that use such sales exceeds 50 %. In Finland, Denmark, Belgium. In Denmark, 31 % of SMEs make online sales. This is the highest figure among the countries in question.

The intensity of DIT integration into the activities of enterprises is based on sufficient provision of necessary equipment for employees. For example, 75% of employees in the enterprises of Denmark work using computers. The lowest figure for Ireland is 54 %. In addition, about 30–60 % of enterprises provide employees with portable devices for work. There are 51 % of such employees at Ireland enterprises, 47 – in Denmark, 44 – in Finland, 36 – in Netherlands, and 28 – in Belgium.

Evidence suggests that a significant part of large enterprises in these countries (from 79 % for the Netherlands to 86 % for Belgium) employs ICT specialists. Such specialists are 24 % in Finland, 31 % – in Ireland, 26 % – in the Netherlands and Belgium. However, significant



proportion of enterprises (49–69 %) does not have enough of them and have difficulties in their hiring. Approximately at one-third of large enterprises (from 27 % in Denmark to 35 % for the Netherlands) the functions of ICT specialists are performed by external suppliers. For SMEs, this figure ranges from 49 % (in Finland) to 61 % (in Belgium).

Based on the above mentioned, it can be assumed that a sufficiently high level of digitalization and integration of DIT into the business processes of enterprises is more likely provided by the priority role of managers in these processes, which have sufficiently high digital skills than ICT employees (without denying their role in management decisions).

Such a conclusion can be supported by the results of an assessment of the digital skills of the population in the considered countries. For example, “Basic or above the Digital Skills – Problem solving domain” have 98 % of all internet users (last 3 months) in Denmark and Finland. Moreover, the number of such users is, respectively, 97 and 94 % of all individuals of these countries. In the Netherlands, 97 % of individuals have such skills in using the Internet for the last 3 months (their share among all individuals is 95 %); in Ireland – 87 %, in Belgium – 90.

Problem solving digital skills “refers to the ability to identify digital needs and resources, make informed decisions as to which are the most appropriate digital tools according to the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update one's own and others' competences.” [21]. Such digital skills of managers significantly help make management decisions to improve the performance of enterprises on the basis of DIT.

In the Netherlands and Finland, 97 % of all internet users (last 3 months) have basic or above basic digital skills in information domain. Moreover, their number is 95 and 94 % in these countries respectively. 94 % of individuals have such skills in Ireland and Belgium, and 96 % – in Denmark. The number of individuals who have used the Internet in the last 3 months is 81, 88, and 97% of all individuals of these countries respectively.

Digital skills in information domain “refers to the ability to identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and purpose” [21].

Considered countries have high rates of basic or above basic digital skills in communication domain. “These skills refer to the ability to communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness” [21]. Such skills in the Netherlands are characterized for 99 % of the internet users (last 3 months), in Belgium and Denmark – 98, in Finland – 96, in Ireland – 95. At the same time, as noted above, the share of such users in the total number of individuals is very high.

A significant number of the population of these countries has basic or above basic digital skills in software for content manipulation. “Software skills for content manipulation refer to the ability to create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences” [21]. In the Netherlands, 84 % of individuals have such skills, in Finland – 81, Denmark – 74, Belgium – 82, Ireland – 61.

The value of “Individuals with a basic or above basic digital skill – Employed and unemployed” (in % of individuals) shows that 87 % of the employed and unoccupied population possesses all four skills mentioned above in the Netherlands, in Finland – 83, Denmark – 76, Belgium – 69, Ireland – 55.

Thus, those who know and manage DIT in detail should be the main driver for business digitalization and integration of DIT into business processes. Knowledge in ICT area only is not enough. Digital management skills will make it possible to develop digital strategy and tactics. ICT specialists should be involved in this work. Knowing the intricacies of DIT creation and use, they will help make the best decision about the choice of a strategy and tactics.

“After all, on the one hand, there are already many software products (world and domestic) on current information services market that are largely capable to fill the gaps in the information technologies of companies. But the introduction of software will not deliver positive results without prior preparation and customization of the organizational system, its coordination with the configuration of business processes and the formal structure of a company. Consequently, there is a problem of integrating software products into a company” [22].

**Conclusions and prospects of further research.** The transformation of the economy into a digital one takes place on the basis of digital information technologies. Success of the digitalization of business processes and business models for each individual business depends on the effectiveness of managing such technologies. The main role in this process is played by managers with advanced digital skills, based on the knowledge and experience of ICT staff. In EU countries, which are the leaders in integrating digital technologies into business processes, most individuals have these skills. This is a good resource for developing managerial staff for a business in a digital economy.

The processes of managing the formation of digital skills in the staff of enterprises and individuals for the development of business and the social sphere require further research.

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Manuscript received 21 June 2019

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**Управління цифровими інформаційними технологіями у цифровій економіці**

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**Управление цифровыми информационными технологиями в цифровой экономике**

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В статье рассмотрена проблема управления цифровыми информационными технологиями в условиях активизации процесса трансформации экономики в цифровую. Задачи «цифровизации» экономики, бизнес-среды, социокультурных отношений в современном обществе очень актуальны и сложны. Украина, по большому счёту, только начинает своё движение в обозначенном направлении. Исходя из важности и сложности задач, как тактических, так и стратегических, стоящих перед экономическими субъектами, и требующих решений, в исследовании предложено определение сути категорий «цифровая экономика» и «цифровая информационная технология». Предложено определение сути управления цифровыми информационными технологиями, основные составляющие этого процесса и компоненты. В рамках исследования проанализировано состояние интеграции цифровых технологий в бизнес-процессы предприятий стран Евросоюза с наиболее развитой цифровой экономикой. При проведении исследований выявлено, что в каждой из исследуемых стран достаточно эффективно используются цифровые технологии, а большинство населения имеет базовые или выше базовых цифровые навыки. Определено, что основным драйвером для цифровизации бизнеса и интеграции цифровых информационных технологий в бизнес-процессы является управленческий персонал, обладающий определёнными компетентностями, опытом, знаниями, навыками. Персонал (сотрудники, исполнители, стейкхолдеры) должны владеть конкурентными цифровыми навыками и умениями для управления цифровыми информационными технологиями, их внедрения в бизнес-процессы, практических, научных и инжиниринговых консультаций, в частности, для разработки цифровых стратегий компаний, подбора персонала из ИКТ-сферы и формулировки ему задач цифровизации бизнеса.

*Ключевые слова:* цифровая экономика, управление цифровыми информационными технологиями, цифровые навыки, цифровая информационная технология, управление, персонал, компетентность, навыки, бизнес-среда.

*Mechanism of Economic Regulation, 2019, No 3, 83–96  
ISSN 1726-8699 (print)*

**Управління цифровими інформаційними технологіями у цифровій економіці**

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У статті розглянута проблема управління цифровими інформаційними технологіями в умовах активізації процесу трансформації економіки. Завдання із «цифровізації» економіки, бізнес-середовища, соціокультурних відносин у сучасному суспільстві є вкрай актуальними й складними. Україна, за великим рахунком, тільки починає свій рух у вказаному напрямі. Виходячи із важливості та складності завдань, як тактичних, так і стратегічних, що розгортаються

перед економічними суб'єктами, у дослідженні запропоновано визначення суті категорій «цифрова економіка» та «цифрова інформаційна технологія». Запропоновано визначення суті управління цифровими інформаційними технологіями, основні складові цього процесу та компоненти. У межах дослідження проаналізовано стан інтеграції цифрових технологій у бізнес-процеси підприємств країн Євросоюзу з найбільш розвинутою цифровою економікою. При проведенні досліджень виявлено, що в кожній із досліджуваних країн достатньо ефективно використовуються цифрові технології, а більшість населення має базові або вище базових цифрові навички. Визначено, що основним драйвером для цифровізації бізнесу та інтеграції цифрових інформаційних технологій в бізнес-процеси є управлінський персонал із відповідними компетентностями, досвідом, знаннями, навичками. Персонал (співробітники, виконавці, стейкхолдери) мають володіти конкурентними цифровими навичками та вміннями для управління цифровими інформаційними технологіями, їх упровадження у бізнес-процеси, практичних, наукових та інжинірингових консультацій, зокрема для розроблення цифрових стратегій компаній, підбору персоналу з ІКТ-сфери та постановки йому задач для цифровізації бізнесу.

*Ключові слова:* цифрова економіка, управління цифровими інформаційними технологіями, цифрові навички, цифрова інформаційна технологія, управління, персонал, компетентність, навички, бізнес-середовище.

*JEL Codes:* D80, L86, O39, Q55

Tables: 2; References: 28

*Language of the article:* English

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