

Formation of the Information Resource Management System of Enterprises Under the New Digital Economy

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Abstract— *New conditions of operation require the introduction of revolutionary and creative directions for the sustainable development of modern enterprises. The development of IT technologies, the transition to innovation and technological development is the basis for the emergence of a new format for the existence of an economic system - a new digital economy, which is qualitatively different from the classical economy, based on the use of the potential of human knowledge and the trends of vector-innovative development. The article deals with the problem of using information resources to form the basis of innovative development of business entities in the new digital economy, which is quite relevant and requires further development. The new digital economy, as a process of formation and development of the world economy in the conditions of introduction of scientific achievements and creative knowledge, has its advantages and disadvantages, which are considered in the article.*

The authors consider the basic components of the new digital economy: information and communication technologies, education (fundamental and production of innovations); intellectual services (all types of business consulting, information mediation, marketing services, analytics, etc.).

The main element of the formation of a new digital economy is the use of information resources, which are the result of the interaction of the processes of functioning and automation of information systems in all spheres of functioning of market players. Each enterprise uses a large array of information resources in its activities. The authors classify the information resources of the enterprise.

In modern conditions of functioning the effective methodology of quantitative and qualitative assessment and forecasting of information resources needs has not been fully developed and tested, but it is possible to outline and scientifically substantiate the process of managing information resources by studying the information needs of the enterprise. In the work of the authorities, the system of information resources management was formed as the basis of the new digital economy.

In the course of economic activity, enterprises use technical tools to work with information resources, the amount of automation, the type and intensity of which is characterized by the essence of specific information technology.

Today, for the effective functioning of enterprises in any sector of the economy of Ukraine, it is necessary to use and research a large amount of information resources, so it is necessary to

involve specialists with relevant knowledge and skills in the field of ICT. The combination of knowledge, peculiarities of conducting business activities and effective management of information resources will provide an opportunity to achieve the goals and obtain an effective level of development of domestic enterprises.

The introduction of innovative digital business management systems (business operations processing), the control of production activities, the support of corporate values and the management of personnel contribute to the effective management of information resources in enterprises.

Thus, managing the information resources of business entities is a prerequisite for sustainable development and efficient management in the new digital economy.

Keywords: *new digital economy, information resources, enterprises, information technologies, management.*

I. INTRODUCTION

The current level of development of relations, as well as a clear orientation towards European integration, leads to the transition (reorientation) of economies to the information and digital space. New conditions of operation require the introduction of revolutionary and creative directions for the sustainable development of modern enterprises. The development of IT technologies, the transition to innovation and technological development is the basis for the emergence of a new format for the existence of an economic system - a new digital economy, which is qualitatively different from the classical economy, based on the use of the potential of human knowledge and the trends of vector-innovative development.

When intellectual property humanization, innovative methods of enterprise management and the global use of the results of the scientific and technological process are at the forefront of economic relations, particular attention is given to information resources, which are the basis for effective innovative development of enterprises.

II. LITERATURE REVIEW

The development of problems of formation and functioning of the new digital economy has been devoted to the scientific works by domestic and foreign scientists, namely: Doroshenko O.S. [1], Gudz O.E. [2], Kolot A.M. and Kravchuk O.I. [3], Belotserkivtsi V.V. [4], Marchenko O.S. [5], Goncharova S. Yu. and Buryak I.V. [6], Scotny P.V. [7], Turksiy I.V. and Hayda T. Yu. [8], Kolyadenko S.V. [9],

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Matveychuk L.O. [10], Onischenko Yu. I. [11] and others.

However, the issue of using information resources to form the basis for innovative development of business entities in the new digital economy is quite urgent and requires further development.

III. THE AIM OF THE PAPER

The purpose of the article is to create a system for managing information resources of enterprises in the new digital economy.

IV. RESULTS AND DISCUSSION

In recent years, the term "new digital economy" has become entrenched in economic science, which most scholars interpret as evolutionary changes in the structure and quality of production factors, increasing the importance of knowledge and intelligence, informatization of relationships and the introduction of innovations into real enterprise activity, and, consequently, enduring changes in methods, means and quality of management.

There are many definitions in the scientific literature of the term "new digital economy", they clearly reflect a qualitatively new format of socio-economic conditions for the development of countries, the driving factor of which is innovative transformations in various spheres of life of the population of developed countries and the world as a whole. The new digital economy, as a process of formation and development of the world economy in the conditions of introduction of scientific achievements and creative knowledge, has its advantages and disadvantages (Fig. 1).

The basic components of the new digital economy are: information and communication technologies, education (fundamental and production of innovations); intellectual services (all types of business consulting, information mediation, marketing services, analytics, etc.).

The formation of a new digital economy, as a set of qualitatively new factors for the functioning of enterprises, will help improve the process of business start-up and achieve the mission in the fastest and most efficient way.

The main element of the formation of a new digital economy is the use of information resources, which are the result of the interaction of the processes of functioning and automation of information systems in all spheres of functioning of market players. Information resources are a set of data in paper or electronic form, organized according to certain criteria and used to produce a specific result.

Information resources are transmitted verbally, in writing, or by other means (exchange of information between humans, humans and the automaton, automaton and automaton, exchange of signals in fauna and flora, transfer of signs from cell to cell, etc.). Information resources exist in time and space, passed down between generations.

Each enterprise in its activities uses a large array of information resources, the classification of which is given in Table 1.

Table 1

Classification of information resources

Classification feature	Type of information resources
by type of information	legal; scientific and technical; political; financial and economic; statistical; on standards and regulations, metrology; social; health care; for emergencies
by access method	open information (without restriction); restricted access information (state secrets; confidential information; trade secrets; professional secrets; business secrets; personal information; personal (personal) secrets)
by types of media	on paper; on electronic media; as an image on a computer screen; in the computer memory; in the communication channel; on other types of media
by the way storage and use is organized	traditional forms - an array of documents; fund of documents; archive; automated forms - Internet; data bank; automated information system (network); knowledge base
information resources by ownership	state property; jointly; private property; collective ownership
by areas of formation and use	economic information, marketing information, personnel information, production information and more

^a – developed by the authors.

In their activities, enterprises use a large array of information resources, so the urgent issue is the formation of an information resource management system as the basis of a new digital economy. An effective methodology for quantitative and qualitative assessment and forecasting of information resources needs is not yet fully developed and tested, but it is possible to outline and scientifically substantiate the process of managing information resources by studying the information needs of the enterprise.

Management of information resources at the enterprise consists of an interdependent and necessary set of actions (Fig. 2).

In the course of economic activity, enterprises use technical tools to work with information resources, the amount of automation, the type and intensity of which is characterized by the essence of specific information technology. The purpose of information technology is to obtain the necessary information of the appropriate quality on a given medium, taking into account specifically specified limitations, including: limited cost, speed of data processing, intensity and time of use of information resource, quality of information received, etc.

Existing information technologies are elements of the information resource management system. The main functional features of the information resources management system at the enterprise are production, financial, marketing, personnel, etc.



Taking into account the new operating conditions, the enterprises in their activity are reaching a new level of doing business. Thus, only in the last year the number of specialists

having special knowledge and skills in the field of information and computer technologies (ICT) at Ukrainian enterprises has increased (Table 2,

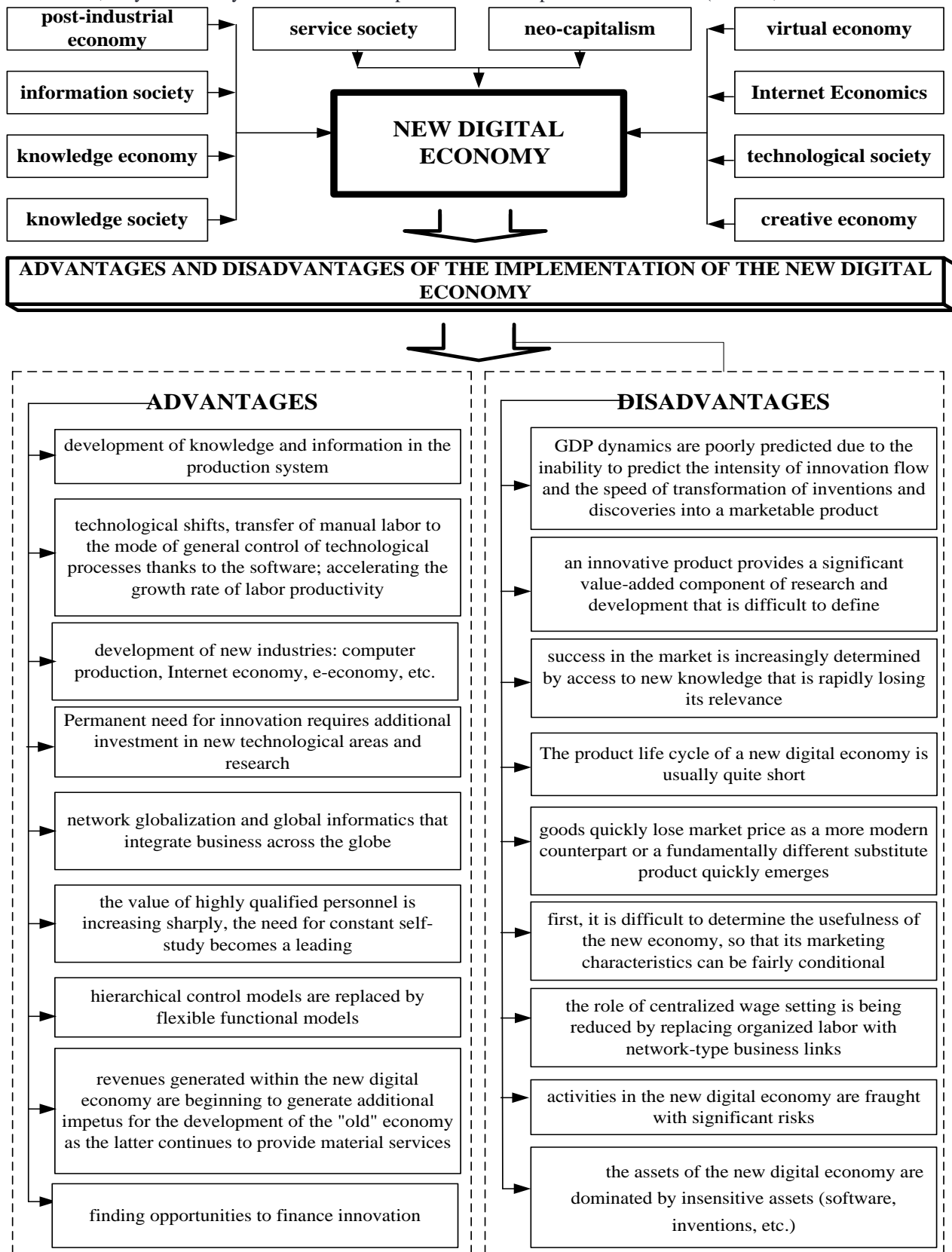


Fig. 1. The essence of the new digital economy as a process of becoming and developing the world economy

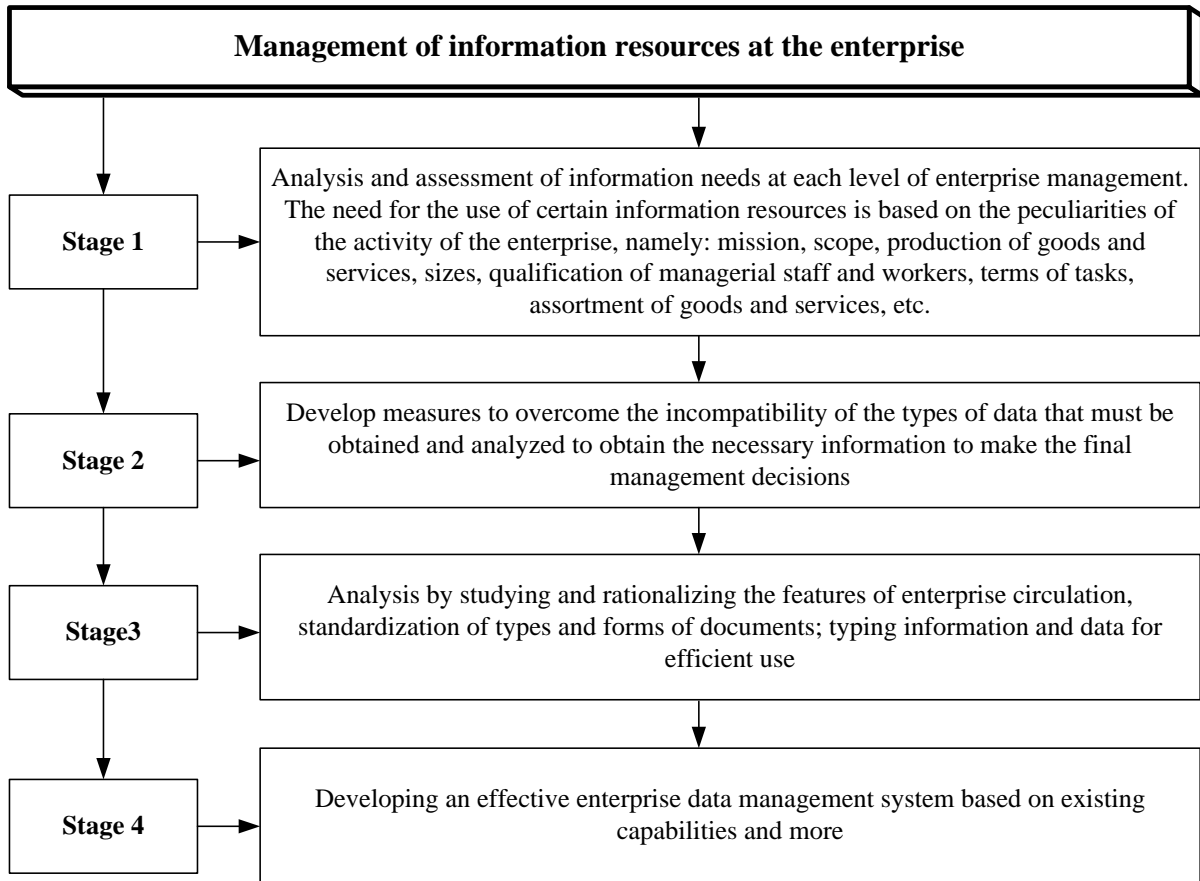


Fig. 2. Management of information resources at the enterprise

Table 2

Number of enterprises with information and communication technology specialists in different industries in 2018 *

The main industries of the country	Number of enterprises with ICT professionals at the beginning of the year	Number of enterprises providing ICT training for their employees		Number of enterprises engaged in the recruitment of ICT professionals during the year	Percentage of enterprises that trained specialists, %	Percentage of enterprises that trained other employees, %	Percentage of enterprises engaged in the recruitment of ICT professionals during the year, %
		training courses for professionals	training for other employees				
Manufacturing industry	2732	478	557	713	17,50	20,39	26,10
Supply of electricity, gas, steam and air conditioning	251	46	55	74	18,33	21,91	29,48
Water supply; sewerage, waste management	209	32	40	52	15,31	19,14	24,88
Construction	608	73	119	146	12,01	19,57	24,01
Wholesale and retail trade; repair of motor vehicles and motorcycles	2918	470	573	780	16,11	19,64	26,73
Transport, warehousing, postal and courier activities	668	115	118	162	17,22	17,66	24,25
Temporary accommodation and catering	226	18	42	73	7,96	18,58	32,30



Information and Telecommunications	1274	293	178	571	23,00	13,97	44,82
Real estate transactions	546	60	76	104	10,99	13,92	19,05
Professional, scientific and technical activities	954	143	157	244	14,99	16,46	25,58
Administrative and support service activities	555	69	100	147	12,43	18,02	26,49
Provision of other services	32	7	10	16	21,88	31,25	50,00
Total	10973	1804	2025	3082	16,44	18,45	28,09

* according to the State Statistics Committee of Ukraine [14]

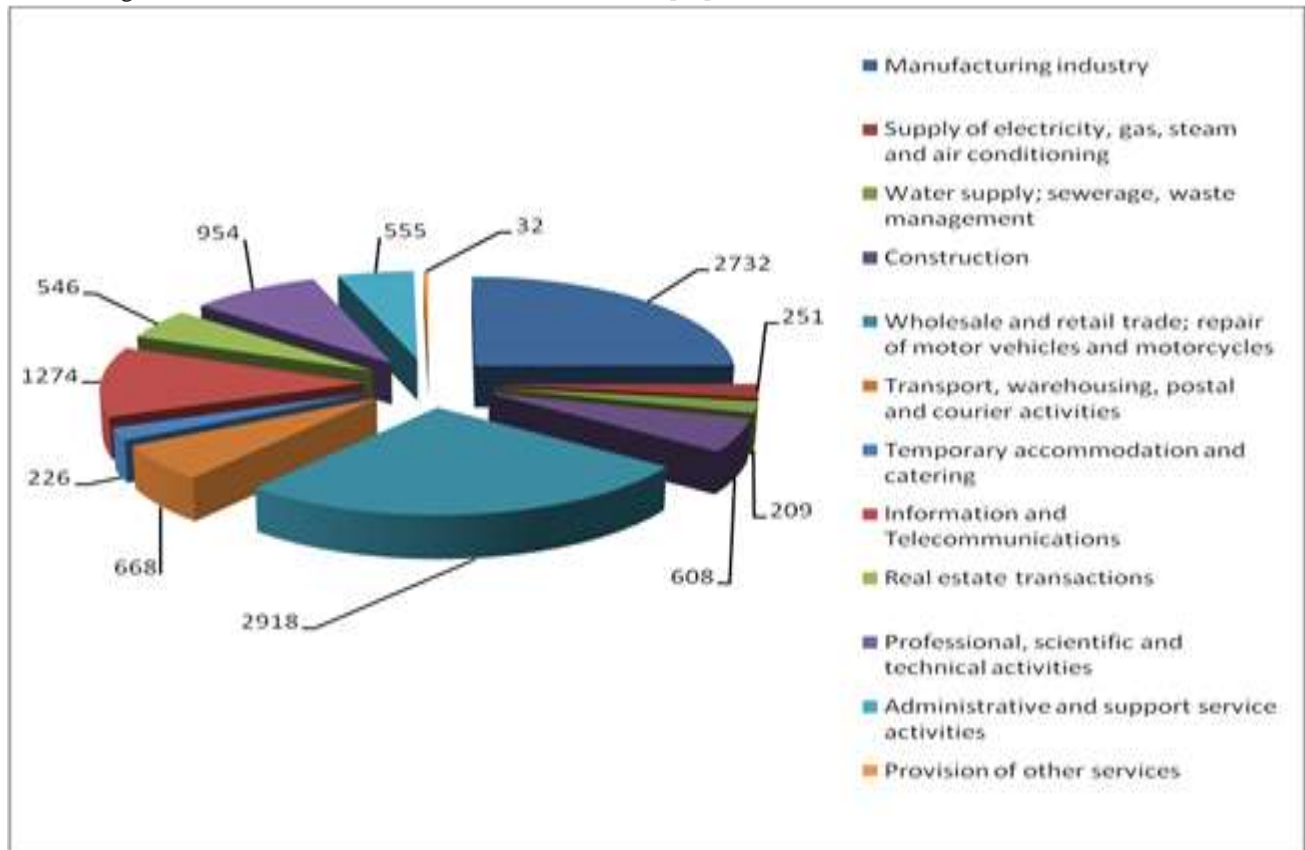


Fig.3. Structure of the number of enterprises of the main branches of economy of the country that had specialists in the field of ICT

Having analyzed the above data, we come to the conclusion that today for the effective functioning of enterprises of any branch of the economy of Ukraine it is necessary to use and research a large amount of information resources; therefore it is necessary to involve specialists with relevant knowledge and skills in the field of ICT. The combination of knowledge, peculiarities of conducting business activities and effective management of information resources will provide an opportunity to achieve the goals and obtain an effective level of development of domestic enterprises.

V. CONCLUSION

The economic sustainability of enterprises in the domestic and world markets largely depends on the rapid adaptation to the conditions of a turbulent environment. Achieving and consolidating a leader's position in competition depends largely on the effective use of information resources. New rules for managing the digital economy are driving evolutionary change in enterprise management. The first place is the introduction of modern technologies of management and use of information resources of the

enterprise, which have integrity, exogenous nature of the structure and continuity of development.

The introduction of innovative digital business management systems (business operations processing), the control of production activities, the support of corporate values and the management of personnel contribute to the effective management of information resources in enterprises.

Thus, managing the information resources of business entities is a prerequisite for sustainable development and efficient management in the new digital economy.

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