

INFORMATION SUPPORT FOR THE DEVELOPMENT OF THE ECONOMIC POTENTIAL OF AN ENTERPRISE

The article substantiates the need to use modern information technologies to form a powerful economic potential of domestic enterprises. The need to form information potential in the mechanism of developing the economic potential of an enterprise is argued. The structure of information support in the system of the economic potential of an enterprise is proposed. The components of information support are characterized with a detailing of their substantive elements. The need for information support for the development of the economic potential of enterprises based on digital transformation and the use of the latest information technologies is substantiated in order to achieve their economic stability and competitiveness.

Keywords: information support, information potential, economic potential, development, enterprise.

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ІНФОРМАЦІЙНЕ ЗАБЕЗПЕЧЕННЯ РОЗВИТКУ ЕКОНОМІЧНОГО ПОТЕНЦІАЛУ ПДПРИЄМСТВА

У статті обґрунтовано актуальність використання сучасних інформаційних технологій як ключового чинника забезпечення сталого розвитку та підвищення ефективності функціонування вітчизняних підприємств в умовах цифрової трансформації економіки. Зазначено, що стрімкий розвиток цифрових технологій, глобалізаційні процеси та зростаючі вимоги до конкурентоспроможності вимагають від підприємств нових підходів до управління ресурсами, зокрема економічним потенціалом. Особливу увагу приділено ролі інформаційного потенціалу як складової частини економічного потенціалу підприємства, яка забезпечує прийняття обґрунтованих управлінських рішень, підвищення адаптивності до зовнішніх змін та ефективну взаємодію з ринковим середовищем. Аргументовано доцільність формування інтегрованої системи інформаційного забезпечення, що охоплює організаційно-методичні, технологічні та інфраструктурні компоненти, спрямовані на підтримку ключових бізнес-процесів. Запропоновано структуру інформаційного забезпечення у системі розвитку економічного потенціалу підприємства, що включає інформаційні ресурси, інформаційні технології, методи обробки та аналізу даних, а також системи підтримки прийняття рішень. Охарактеризовано основні складові такої структури з деталізацією їхніх функціональних і змістовних елементів. Підкреслено, що впровадження цифрових інструментів та технологій є необхідною умовою підвищення економічної стабільності підприємств, забезпечення їх інноваційного розвитку та зміцнення конкурентних позицій на внутрішньому та зовнішньому ринках.

Ключові слова: інформаційне забезпечення, інформаційний потенціал, економічний потенціал, розвиток, підприємство.

INTRODUCTION

The formation of a digital economy is accompanied by active processes of implementing information technologies, which affect the increase of their economic potential and efficiency of activities.

The introduction and widespread use of modern information technologies by enterprises in all processes of their activities contributes to the formation of a powerful information potential, which reflects the information security of the enterprise with information resources, the degree of its informatization, necessary for making effective innovative decisions, on which the effective development of the enterprise and its competitiveness depend.

Modern enterprises have an insufficient level of implementation of information systems, there is a fragmentary use of systems for automation of individual tasks, a low level of use of information technologies by heads of departments and resistance of employees to changes associated with the implementation of such systems. The above indicates the need for scientific substantiation of tasks and measures to build information support for the development of the economic potential of the enterprise using modern digital technologies.

ANALYSIS OF THE LATEST RESEARCH AND PUBLICATIONS

Issues related to the essential characteristics and structuring of the economic potential of an enterprise are highlighted in the works of I. A. Azhamana, K. V. Vaskivska, Yu. O. Halimuk, B. M. Hnatkivsky, O. I. Zhidkov, L. D. Lozinska, A. I. Orehkova [1-4]. N. P. Safonik, A. M. Kovalchuk, I. O. Karpenko determine the features of the formation of the economic potential of an enterprise from the standpoint of its image in the conditions of adaptation to changes [5]. O. V. Balakhonova proposes a generalization of the components of the economic potential of an enterprise and the mechanism of its development [6]. T. S. Shabatura's work is devoted to the formation of strategic directions for the implementation of the economic potential of an enterprise [7].

A separate area of research in the mechanism of development of the economic potential of an enterprise is its information support and the formation of information potential as one element of the component structure. I. A.

Markina, M. I. Syomych, D. V. Dyachkov propose the author's development of an organizational and economic mechanism for managing the information potential of an enterprise [8]. O. E. Gudz, S. Yu. Strelnikova propose organizational and information support for managing the development of an enterprise in the conditions of the formation of a digital economy [9]. In the work of L. A. Zakharchenko, M. S. Khazrat and M. S. proposed strategic directions for the formation of the information potential of an enterprise in the conditions of a digital economy [10]. Despite the significant achievements of scientists in these problems, there are still questions that require further scientific research in view of the need to find ways and mechanisms to increase the economic potential of an enterprise and use appropriate information support to achieve this goal.

FORMULATION OF THE ARTICLE'S GOALS

The aim of the article is to substantiate the theoretical principles of information support for the development of the economic potential of an enterprise.

PRESENTATION OF THE MAIN MATERIAL

The study of trends in the development of the information sphere in Ukraine's GDP showed an increase in its main indicators of economic development, and in particular an increase in consumer demand for multimedia convergent telecommunication services, machine-to-machine (M2M) services, Internet of Things (IoT) services, and an increase in the number of owners of multifunctional terminal equipment with wireless access to the Internet; creating conditions for the activities of virtual operators [10].

Information potential is a unity of organizational, technical and information capabilities that ensure the preparation and adoption of management decisions, as well as influence the economic development of the enterprise through the collection, accumulation, processing, and storage of information resources. In turn, knowledge obtained from information is implemented in certain types of innovations, new technologies, and professional experience of personnel, which emphasizes the close connection of information potential with other types of economic potential of the enterprise.

To form a powerful information potential of an enterprise, it is necessary to ensure:

- formation of information resources of the enterprise, software of information systems of the enterprise;
- use of information systems that correspond to production and management processes at all levels;
- combine information support with appropriate personnel support that possesses IE competencies;
- development of a marketing information system and digital marketing tools;
- use of new digital technologies, business analytics technologies and management of large databases;
- automation of business processes and business communications in the enterprise.

Enterprises are forced to modernize the information support of the processes of forming their economic potential and go through digital transformation processes. These processes concern changes in organizational culture, the introduction of new digital technologies and communications, which expand the capabilities of the enterprise and allow for improved interaction with the contact audience.

The paper proposes a scheme for information support for the development of the economic potential of an enterprise, which contains a description of its components with a detailing of content elements (Figure 1).

Information support is divided into three groups: information database, enterprise information systems and data conversion, processing and storage technologies. The information database group includes: machine and non-machine databases, database management systems and automated databases.

In the process of creating a non-machine information base, computer systems perform the following actions: data formalization; selection of forms of primary documents and machine media; selection of methods and means of recording in primary documents and on machine media; development of forms of source documents; definition and development of the logical structure of the database; selection of a database management system; organization of rational document flow, etc. The composition of the non-machine information base includes regulatory and reference documents, documents with planning, accounting and other information necessary for the creation and functioning of the entire system. Organization of a non-machine information base of an object involves the study and analysis of information flows, the composition of documentation, and the features of the created automated information processing technology.

A machine information base consists of information arrays that can be organized in the form of separate, independent, local information arrays managed by a database management system. The arrays of the machine information base include regulatory and reference, operational and other types.

Information support includes automated data banks (ADB). ADB includes databases and database management systems. Database management systems are a set of software tools designed to create the structure of a new database, fill it with content, edit content and visualize information.

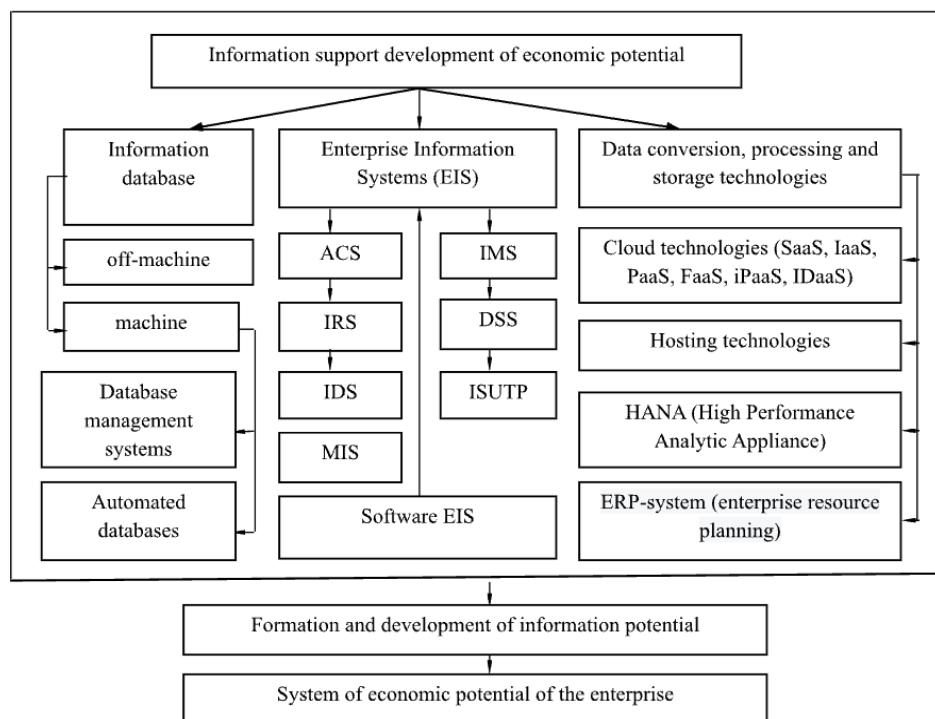


Fig. 1. Information support of the economic potential of the enterprise

Source: compiled by the author

Note:

ACS – automated control system:

ACS – automated control system;
IMS – information management systems;

IMS – information management systems
IRS – information retrieval systems:

IRS – information retrieval system
IDS – information and reference

IDS – information and reference systems,
DSS – decision support system;

DSS – decision support system;
ISUTP – information systems for tech-

Enterprise information systems include:

- automated control system (ACS) using modern automated data processing tools, economic and

mathematical and other methods to solve problems of managing the economic potential of the enterprise;

- information management systems (IMS) for automated solution of a wide range of management tasks;
- information retrieval systems (IRS), which are focused on solving information search problems without its meaningful processing;

- information and reference systems (IDS), which are designed to calculate the values of arithmetic functions based on the search results;

functions based on the search results;

- decision support system (DSS), which uses data and models to assist in decision-making, especially in complex and unexpected situations, as well as to identify problems, evaluate possible solutions and monitor their implementation;

- information systems for technological process management (ISUTP), which manage the state of technological processes;
- marketing information system (MIS), which is designed to collect, process, analyze and distribute timely and reliable information necessary for the preparation and adoption of marketing decisions.

The introduction of a marketing information system into modern economic activity is an objective need, determined by the essence of the information society. The main tasks of the functioning of the MIS in the enterprise management system are: establishing, ensuring and supporting information connections between the marketing service and other divisions of the enterprise and the external environment; monitoring the performance of the enterprise and assessing opportunities and obstacles for further development; collecting, accumulating and analyzing information in order to predict possible scenarios and make appropriate marketing decisions; providing the person making the marketing decision with the necessary information for the development, adoption and implementation of marketing decisions.

Data transformation, processing and storage technologies include:

Data transformation, processing and storage technologies including – cloud technologies (SaaS, IaaS, PaaS, EaaS, iPaaS, IDaaS);

- cloud technologies (SaaS, hosting technologies)

- hosting technologies;
HANA (High-Performance Analytic Appliance);

- HANA (High Performance Analytic Appliance) - ERP system (enterprise resource planning)

To optimize internal information and communication chains, it is advisable to use specialized software - ERP, electronic document management systems, CRM, BMPS systems, UPE platforms for efficiency management [9].

Today, the Internet is not only a tool for enterprise development, but also a platform for its implementation. One of the promising tools for information support for the development of the economic potential of an enterprise is hosting and "cloud" technologies.

Cloud technologies help to significantly increase work efficiency and ensure information security. Some companies choose this method to enable collaboration among workers who work remotely. Cloud technologies can be divided according to the way they interact with the user:

- SaaS, software as a service. The user receives ready-made software for further use. The main advantage of this model of cloud use is the absence of the need to update the software, which is done by the application developer. The client only needs to directly update the application and continue using it;

- IaaS, the infrastructure as a service model, the essence of which is to obtain the required amount of computing power via the network. On their basis, you can deploy your own applications and set up their maintenance. Virtual machines or environments for storing information can be provided as a service;

- PaaS, platform as a service. The user receives a virtual platform at his disposal where he can test or develop applications and software;

- FaaS, function as a service, which allows for serverless computing in the clouds. Their essence is to download functional code blocks configured to work under certain circumstances. The main advantage is minimal costs due to the lack of idle resource usage;

- iPaaS, an integration platform as a service used by large companies with an established SaaS model. This integration allows for efficient data distribution between SaaS applications and the company's already installed local applications;

- IDaaS, an identity as a service model, the main essence of which is the identification of user profiles and granting them access to the company's product based on the established security policy or individual settings.

VPS (virtual private server) simulates an autonomous computer. Several dozen virtual servers can be located on one powerful computer. Each virtual machine works autonomously, has its own operating system and uses only the part of the server equipment allocated to it. The technology is implemented using special software. Virtual hosting is one shared computer on which many password-protected folders are stored. VPS is your own separate computer, but not a real one, but a virtual one — located inside a real physical server next to other virtual computers. On a virtual server, you can host websites, store massive work files, install resource-intensive software, and organize control centers for various services. On average, a virtual server has more disk space and computing power, so clients whose projects no longer fit on virtual hosting often switch to it.

HANA technology allows you to process and analyze large amounts of information, making key business decisions based on such technologies more relevant. A single place to store transactional and analytical information. SAP HANA provides storage and work with Big Data, as well as viewing analytical information in real time. SAP HANA works with a stack of SAP technologies. Its advantages are that it: eliminates the need for data duplication, obsolescence of analytical information. It is a high-performance transactional system that is perfectly scalable and protected by modern standards. The advantages of SAP HANA also include real-time analytics with in-memory technology and the ability to easily connect information from various sources (internal and external). The listed groups of information support form the information potential of an enterprise, which is one of the effective basic foundations for the development of economic potential.

CONCLUSIONS FROM THIS RESEARCH AND PROSPECTS FOR FURTHER RESEARCH IN THIS DIRECTION

To ensure the effective development of enterprises, there is a need for scientific substantiation of information support for the growth of their economic potential. Today, enterprises use a whole range of integrated digital technologies, products and services that have a certain value for information support for enterprise development management. They accelerate business processes, save resources, increase profits, and form unique competencies.

Information support for the development of economic potential based on digital transformation involves the use of the latest information technologies, development in IT transformation, the introduction of modern data center technologies, modernization of IT service delivery methods, etc. New requirements of economic development require new approaches to informatization of the production sector.

Thus, modern trends in the development of digital technologies, dynamic economic development, and high competition determine the existence of the problem of creating such information support for the development of the economic potential of the enterprise that will change as quickly as possible and with less cost. All this will enable enterprises to create new opportunities for further growth of economic potential by expanding key activities, expanding the circle of key partners, cooperation with various contact audiences, increasing resources, optimizing the cost structure, optimizing sales channels and communication chains, expanding value propositions, expanding

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