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THE CONCEPT AND TYPES OF INFORMATION SYSTEMS IN MANAGEMENT OF ENTERPRISE

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ABSTRACT

Modern enterprises are complex organizational systems with constantly changing individual components that are in complex interaction with each other. For the normal functioning of enterprises in a market economy, a perfect management activity is required, based on the complex automation of management of all production and technological processes, as well as resources. Information management system is a set of information, economic and mathematical methods and models, technical, software, other technological tools and professionals, designed to process information and make managerial decisions.

The successful functioning of information systems of enterprise management has a positive impact on the economy of the enterprise as a whole by improving the organizational structure and automation of management processes, improving the quality of work and facilitating the work of management personnel. The annual results of production and commercial activity of the enterprise are increasing.

Management information systems make it possible to use systematical approach to justify and make managerial decisions, to increase the level of their optimality, efficiency and effectiveness.

In this paper the essence of the concept “information system in enterprise management” and the task of information systems in the management of the enterprise were determined; the classification of information systems in the management of enterprises is given; functions of information systems in the management of enterprises and options for their implementation were listed; the advantages and disadvantages of information systems were analyzed in the application of accounting in order to generate economic information; the organizational forms of information management systems of the enterprise were allocated; the principles of the formation and use of information systems in the management of enterprises were defined.

ПОНЯТТЯ ТА ВИДИ ІНФОРМАЦІЙНИХ СИСТЕМ В УПРАВЛІННІ ПІДПРИЄМСТВОМ

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Сучасні підприємства — це складні організаційні системи з окремими складовими, що постійно змінюються і знаходяться в складній взаємодії одна з одною. Для нормального функціонування підприємств в умовах ринкової економіки необхідна досконала управлінська діяльність на основі комплексної автоматизації управління всіма виробничими і технологічними процесами, а також ресурсами. Інформаційна система управління — сукупність інформації, економіко-математичних методів і моделей, технічних, програмних, інших технологічних засобів і фахівців, призначена для обробки інформації та прийняття управлінських рішень. Інформаційна система (ІС) управління повинна вирішувати поточні завдання стратегічного, тактичного й оперативного планування, а також завдання оперативного обліку фірми.

Успішне функціонування інформаційних систем управління позитивно впливає на економіку підприємства в цілому за рахунок удосконалювання організаційної структури й автоматизації управлінських процесів, підвищення якості роботи та полегшення праці управлінського персоналу, завдяки чому підвищуються кінцеві річні результати виробничо-комерційної діяльності. Інформаційні системи управління дають змогу системно підходити до обґрунтування й прийняття управлінських рішень, підвищувати рівень їхньої оптимальності, дієвості й результативності.

У статті визначено сутність поняття «інформаційна система в управлінні підприємством», завдання інформаційних систем в управлінні підприємством, наведено класифікацію інформаційних систем в управлінні підприємствами, перелічено функції інформаційних систем в управлінні підприємствами та варіанти їх здійснення, проаналізовано переваги і недоліки інформаційних систем при застосуванні в обліку з метою формування економічної інформації, виділено організаційні форми інформаційних систем управління підприємством, визначено принципи формування і використання інформаційних систем в управлінні підприємствами.

Ключові слова: інформаційна система, завдання інформаційної системи, інформація, види інформаційних систем, бухгалтерський облік, управління підприємством.

Problem statement in general and its connection with important practical tasks. Efficient management of a modern enterprise is ensured by the creation of management information systems that cover all levels and objects of management. The problem of modern enterprises, in particular in Ukraine, is the lack of managerial experience, informational education and financial resources for the formation of information management systems that would be characterized by economic efficiency

through the integration of advanced innovation in the field of management and information. Information system is a set of organizational and technical means for storing and processing information to meet the information needs of users. Information systems, as management systems, are closely linked to both systems for storing and transmitting information, and also provide information exchange in the management process. The information system includes a set of tools and methods that allow the user to collect, store, transmit and process information. The purpose and tasks of the information system is the formation of the information necessary for the efficient management of all its resources, the creation of information and technical environment for managing its activities.

An analysis of recent researches and publications in which the problem was initiated. The information systems were examined by O. Baranov, R. Belkin, A. Vikaruk, O. Zolotar, V. Ivanov, V. Nastyuk, V. Pylypchuk, M. Polovey, A. Rosinsky, S. Smirnov, M. Saltevisky, A. Sozanets, V. Hahanovsky, M. Shapovalov, O. Shlyakhov, O. Yarmish and others. However, today there is no single system approach to the development of the concept and types of information systems in Ukraine.

The purpose of the article. The purpose of the article is to clarify the essence of the concept of “information system of enterprise management”; the establishment of types of information systems in enterprise management.

Presenting main material. The introduction of an information system makes the enterprise more flexible to the changes in the external environment, allows you to respond quickly to new consumer requests, which, in turn, gives the possibility for an enterprise to increase sales volumes. This technology also plays very important role in the decision making process as a management that will quickly receive credible and objective information about the work of the entire firm, and middle and lower-level managers who can monitor scheduled tasks and adjust work in their departments to avoid errors in performing various operations using the structural management model of information system at the enterprise.

In addition, information technologies enable the enterprise to distribute working hours as follows so that employees have the opportunity to perform their duties on a highly skilled level, without time spending on analysis, processing and systematization of a large amount of data, through implementation of information systems that increase staff productivity and work efficiency of the enterprise at whole.

The main tasks of information systems, which are designed to provide timely and reliable information for making managerial decisions include:

- identification, collection, registration, analysis and delivery of information characterizing activity enterprises;
- ensuring the implementation of information analysis with pre-set parameters: efficiency, cost and terms;
- provision, planning and standardization of processes of movement and processing of information, their documentation and control [2].

The generalization of the opinions of different authors and our own research suggests that under the information system it is necessary to understand the totality of different types of information, subjects of information activity, information technologies and connection between them. Given the definition of the concept “system”

and the domain of its application, information is the most important object of the information system. During the study of the signs of the concept of “information” it was found that one of its characteristics are the subjects of information activity. After all, the information arises only because of the presence of the subject, which is able to identify the signs of a certain phenomenon, the process. Obtaining, processing information, its use for a certain purpose causes the emergence of information technology, which is the third component of any information system. In the interaction of these elements there is an information system. The conducted researches allow to allocate the information system, in relation to the enterprise management process, on:

- information systems of the enterprise management;
- other information systems [3].

Information System of Enterprise Management (ISEM) is a set of management information, management entities, information technologies, enterprise management system and connection between them. Enterprise information systems are expedient to classify:

1. By object of management:
 - local (information management systems of separate structural subdivisions, types of activity of the enterprise, etc.);
 - integrated (information management systems in general).
2. By the way of formation:
 - information systems developed by the employees of the enterprise;
 - purchased information systems;
 - combined information systems.
3. On a functional basis:
 - single-function (aimed at the implementation of one function. an example of such an is can be the information system of accounting in the enterprise);
 - multifunctional (focused on the implementation of two or more functions. multifunctional are integrated information systems of enterprise management).

With the introduction of computer technology, the speed of inputting information, processing it and obtaining an answer increases the efficiency of labor. Information systems created on the basis of electronic computing machines (ECM), have their own peculiarities and advantages: using a computer in the information system can store more information than in systems of manual and mechanized type; information through communication channels can be transmitted to other information systems and users; information can be concentrated in one place regardless of where it is received [4].

There are several approaches to the classification of information systems:

1. By the nature of the search organization, distinguish the system:
 - information retrieval;
 - information and management;
 - information and reference.
2. By the implementation of the mode of distribution and the search for information are distinguished:
 - systems with selective distribution and information search mode;
 - systems with a retrospective mode of distribution and search;

- integrated systems.
- 3. By the nature of functionality, information systems are divided into:
 - monofunctional;
 - multifunctional.
- 4. On the scale of implementation:
 - global;
 - regional;
 - local.
- 5. In terms of safety:
 - information systems with the highest level of security;
 - with a high level of security;
 - with a low level of security [4].
- 6. By feature of architecture:
 - desktop (local) information systems in which all components (database, client software) are on the same computer;
 - distributed information systems, in which the components are branched out on several computers.
- 7. By the degree of automation information systems are divided into:
 - automated;
 - information systems in which automation may be incomplete, because permanent personnel intervention is required);
 - automatic;
 - information systems in which automation is complete, that is, there is no need to interfere with personnel or need only occasional.
- 8. By the nature of data processing:
 - information and reference or information retrieval IS, which do not have complex algorithms for data processing, and the purpose of the system is to search and provide information in a convenient way;
 - information systems for data processing, or decisive information systems, in which data is processed by complex algorithms (automated control systems, decision-making systems).
- 9. By the area of application: since information systems are created to meet information needs within a specific subject area, then each type of subject (field of application) corresponds to its type of information system. To list all these types is not meaningful, because there are a lot of subject areas, but we can specify the following types of information systems as an example:
 - information and reference system;
 - an information system designed to find information within a specific subject area;
 - economic information system;
 - an information system designed to perform management functions at an enterprise;
 - information-analytical system of forensic accounting;
 - information system intended for analytical support of law-enforcement activity;
 - medical information system;
 - an information system intended for use in a medical or preventive institution;

- geographic information system;
- information system providing collection, storage, processing, access, display and distribution of spatially coordinated data (spatial data).

10. On the scale of the scope of tasks:

- a personal information system designed to solve a certain range of tasks of one person;

- a group information system focused on the collective use of information by members of the working group or unit;

- the corporate information system ideally covers all information processes of the entire enterprise, ensuring their complete consistency and transparency. Such systems are sometimes called complex automation systems of the enterprise [5].

In our point of view, the most common in scientific and empirical activities is the division of information systems in the field of application. The above criteria for the systematization of information systems are rather comprehensive, and it seems that the creation of new authorship approaches to systematization is unlikely to have much scientific value.

Conclusion

Giving the importance of clarifying the meaning of the term “information system” as well as ambiguity in defining this term in both legislative and scientific terms, we can agree with this definition of the term “information system” as an organizational and technical system in which, through technical and software provides the operation of information processes, in particular the creation, distribution, use, processing, systematization, preservation and destruction of information [6].

The existence in national legislation of the definitions of certain types of information systems and the lack of their complete classification in scientific literature allows us to agree with the above classification of information systems according to various criteria: by the nature of the search organization; by the mode of distribution and search of information; by the nature of the functionality; by scale of implementation; in terms of security; by degree of automation; by the nature of processing of data; by the field of application, etc.

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