

**ІНФОРМАЦІЙНІ СИСТЕМИ В УПРАВЛІННІ ПІДПРИЄМСТВОМ**

*Проведено дослідження використання інформаційних технологій та систем в управлінні підприємства для оптимізації його діяльності на сучасному етапі розвитку економіки.*

*Ключові слова: інформаційні технології, автоматизація, сучасні технології, інформаційні системи, інформація, управління.*

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**INFORMATION SYSTEMS IN BUSINESS MANAGEMENT**

*Abstract – Objectives – research areas of misuse of information technologies and business management systems. The article studies usage of information technology and management systems in business management in terms to optimize operations in the enterprise in the framework of current economic development. Practice of business management, on one hand, takes a balanced approach to the information support of business decisions; on the other hand, there is no special service department that would be responsible for providing information. Other words, searching of reliable information relies on each separately taken service or department. But we cannot consider this being a mistake, because today business entities conducting effective system of automation and computerization, providing reliable operation of information within the enterprise. At the same time, it is likely that external information can be unreliable. Since the management system cannot operate without reliable, prompt, relevant information and its analytical processing, there is an urgent need for an entity to implement modern information systems. Information support is a complex and multifaceted process that uses all the achievements of modern information technology, latest computer technology, all of which allow the successful management of interaction between departments. Well-organized information system as a mechanism of structural units' interaction provides new opportunities to organize relevant information according to specific needs of managerial staff of the company.*

*Key words: information technology, automation, advanced technology, information systems, information, management.*

**Problem statement.** Implementation of advanced management information systems and information technology is one of the most effective areas of management in an organization. The newest information technology is an essential and necessary tool for enterprise management, that allows you to provide executive staff and company's management team with required qualitative information at appropriate time; to optimize the personnel, which is engaged in the collection, storage, accounting and data processing; to get information quickly, carry out proficient record-keeping and data processing, store and protect the information you need; conduct analysis and forecasting of the company, as well as proficiently, promptly make needed managerial decisions.

**Analysis of recent research and publications.** In order to optimize production, to the issue of information technology and information management systems in the company addressed a number of studies of domestic and foreign scientists, including: Tereshchenko M.A. [1], Harasym M.P. [2], Sayko L.Ya. [2], Pyrih D.Z. [3], Zayats V.M. [4], Kostyanyk N.V. [5] and others.

**Allocation of unsolved aspects of the problem.** Today, information systems and technologies are developing very rapidly, and data flows that circulate in the world are massive, and it is inherent in tendency to increase. Therefore, in any business, there are problems of information management, receiving its full and on time, which will provide the most efficient operation. Nowadays, dominant role of management and information systems and technologies, continual development, adapting to any change and improve them in order to ensure the efficient operation of the enterprise becomes apparent. This determines the relevance of the research topic.

**Goal of research.** The research directions of misuse of information technologies and business management systems.

**Statement of basic research material.** Wide informatisation of all present areas fundamentally strengthens the role of data and information technology. Particularly relevant these issues are for economic entities where management is an ongoing process of processing large volumes of diverse information.

Information service of the company generally is not allocated to a separate division. It is an integrated part of the process of doing business and its management is as essential as the main production, marketing service or financial accounting. To combine separate divisions of the entity into a single unit and ensure an effective economic activity the enterprise creates an integrated information system. It allows to provide an exchange of information in the company: information about the work of each department and the external changes is recorded, analyzed, summarized and used in decision making process, which, in turn, is brought to people in charge of this decisions implementation. In medium-sized enterprises control function over activities and troubleshooting of information systems rely on the System Administration, and in small enterprises the following functions could be relayed on external specialist or part-time employee.

The basic approach to the use of information available to the company is the creation and application of information systems in management [6].

According to Voytyushenko N.N., information system means a combination of data, physical hardware and software and technological means, telecommunications, databases, methods and data processing, personnel mana-

gement, which realize the collection, processing and accumulation of information for preparation and adoption of effective management decisions [7].

The control system cannot operate without reliable, prompt, relevant information and its analytical processing. Information Management & Analysis System plays a critical part in the operation of enterprise management system, providing interaction between different structural subdivisions and respond to changing internal and external environment.

The information system as a management system is closely related to the storage system and providing information, as well as systems which provide information in the management process. In addition, the management system encompasses a set of tools and techniques that allow the user to capture, store, transmit and process the selected information. Information systems exist since the advent of society due to importance of managing at each stage of its development. The mission of the system requires production of information that is needed for a business entity, it is appropriate for the effective resource management, creation of informational and technical environment to manage.

Today, the information age, almost every information system uses computer technology. A variety of information systems is growing every year. Depending on the functional purpose of the system are the following: control systems (DCS, ASUV), designing (CAD), scientific research (ASND, expert systems), diagnostic modeling, preparation of decision making (DSS), and depending on the scope of use – administrative, economic, industrial, medical, educational, environmental, forensic, military and so on.

The main factors that affect the implementation of information systems is the needs of enterprises and users, as well as the availability of appropriate facilities for their formation. The most significant for the information systems development were the advances in computer hardware and telecommunication networks [2].

When developing Technology Development Strategies, in particular by implementing of modern information systems especially should take into account the opportunities the enterprise in such a development, organizational, economic and social aspects of implementation. Traditionally, choose one of two alternative concepts:

1) information technology adapts to the existing organizational structure and occurs only upgrading of working methods;

2) new information system is focused on the future organizational structure and provides full development of communications and the development of new organizational relationships.

The advantages of the first concept should include a minimum level of risk and cost. The disadvantages could become underdeveloped communications and the necessity of continuous changes in forms of delivering information tailored to specific technological methods and technical means that in general will reduce the efficiency of decision-making.

According to the second concept, the system effectiveness accomplished by continuous creation and combination of its subsystems. It enables to get rid of duplication and ensure the multiple use of information and to establish integrative connections, limit the number of indicators to increase the degree use of the information.

The disadvantages of this concept are significant expenditures at an early stage associated with the development of a general survey of all business units, as well as the psychological tension caused by predictable changes in the structure of the company.

Appropriate Management Information System tends to create proper conditions to maximize the use of available information in terms to achieve its strategy and current goals, increase the market value of the enterprise and gain competitive advantage in a dynamic market environment. Advantage of such a system that constructed on the basis of computer technologies lies in convenience in use, processing and maintaining of information about current activities as well as on a planned [8].

Implementation of new information technologies in the management of appropriate primarily focus on improving management information systems (MIS), decision support systems (DSS) and using of Project Management Information System (PMIS). To some extent, these systems are the basis of information management and the development of innovative capacity of enterprises. Thus improvement of MIS must be targeted at the internal needs of management and external communication links with enterprise customers. At the same time, IT should not form new elements in management, but using only the functional components of the company IT have to expand and deepen their information capabilities.

On this basis MIS can be defined as a complex of processes, equipment and staff, which carries out search, collection, processing, transformation and dissemination of necessary information in management and production

Decision Support Systems – a special interactive MIS, which include computers, software, databases, mathematical models of management processes. That was created to support separate stages of structured and unstructured decision-making in the process of modeling for specific technologies.

DSS is not focused on the description of the process, but it focused on a set of formal possibilities that are elected by leader in interactive mode. They define a number of alternatives that depend on the selected parameters (features), but do not determine clearly defined process. Such creative job with DSS requires from the head deep knowledge of object-business management, high competence and professional knowledge of computer systems [3].

The reasons, that motivate enterprises to implement information systems, on the one hand, are determined by the desire to increase the productivity of daily activities or avoid repeated conduct, on the other hand – by the desire to increase the effectiveness of management of the Company, by taking optimal and rational management decisions. The first reason is quite clear and implementation of standardized system of information processing is enough for its implementation.

Successful functioning of enterprises largely depends on successful management that based on the justification of future development concepts according to timely, accurate and complete information that can supply adequate information systems. Primary goal of management information system is subordinated to all internal processes of the main goals.

This requires coordinated processes, which related with the activities of the enterprises, so that they provide the maximum performance of the tasks in a single information field. Only information equipment of the entity begins to directly affect the efficiency of its operations. This requires coordinated processes, so they provide the maximum performance of the tasks in a common information realm. Only then information equipment of the enterprises begins to directly influence on the efficiency of its operations.

To the main areas of information management activities automation in the organizational framework belongs:

- Automation of documentary processing with the implementation of systems for processing and automate exchange of information through various forms of communication (which include enterprise PBXs, videoterminal system, a local computer network, copy machines, video information systems);

- Automation of manager's activities on computer based integrated information systems that provide assistance in decision-making, as well electron secretaries that contribute to upgrade the organizational management.

Implementation of information systems provides for manager a quick access to the accumulated information in order to continue using it efficiently to address the objectives (in the areas of analysis, marketing, finance, etc.) [2].

Modern IT based on the professional use of information resources enable managers to operate effectively while minimizing risk. Depending on the managerial assignments can be applied the following types of information-management technologies:

- Nonvolatile IT (reduce expenses, save natural and financial resources, but not significantly affect the change of state and functioning of the enterprise) transmit data from sender to recipient, not responsible for the essence of information transmitted and its using by recipient;

- Rationalizing IT – responsible for the information using;

- Constructive IT that “produces” new knowledge, convey and implement them to improve the level of management. Requirements for the professionals who prepare information for managers: fundamental training in management theory and practice, understanding the essence of functional load of relevant managers, knowledge of decision-making;

- Professional IT – means being skilled in information preparation. Managers must adhere to certain guidelines, including such as arrangement of data flow;

- Ensure the completeness and accuracy of all aspects of enterprise accounting;

- IT aimed to minimize information noise and limit information overload by the requirements of reliability;

- IT aimed to provide continuous communication between the external and internal information and decision-making at all levels of the management hierarchy [1].

The basis of the modern computer information technology is the artificial intelligence systems, which can be divided into the following groups:

- Intelligent information storage and retrieval system (IRS) that support nonprofessional users' interaction with database at professional language close to the natural;

- Accounting and logical systems that enable users to solve mathematical problems on a computer in interactive mode without being experts either in mathematics or in programming;

- Expert systems that allow to computerize spheres in which knowledge can be represented in the expert narrative form, so that the use of mathematical models is difficult either impossible [4].

Most developed countries economy entered a new period that is called post-industrial economy. Definition of the new socio-economic system requires the term “information society”.

In terms of new economic framework organization should be guided and in decisions-making as well by integrated information created within the company, and information about the surrounding economic environment.

The scale of data processing necessitated the further development of information and network technologies, that are technical maintenance of enterprise management system [5].

Information technology (IT) utilization refers to the most controversial issues intrafirm. Enterprise management often refuses to deal with them since feel being not competent enough, and the decision is usually assigned to the CIOs or specialized external agencies.

Commercial risks associated with IT are constantly increasing, and it is uncertain until when enterprises top management would underestimate the importance of this strategic resource. However, lately senior management became more attentive to IT. It must proceed from their decisive initiatives to change the situation in this area

**Summary.** Practice of business management, on one hand, takes a balanced approach to the information support of business decisions; on the other hand, there is no special service department that would be responsible for providing information. Other words, searching of reliable information relies on each separately taken service or department. But we cannot consider this being a mistake, because today business entities conducting effective system of automation and computerization, providing reliable operation of information within the enterprise. At the same time, it is likely that external information can be unreliable. Since the management system cannot operate without reliable, prompt, relevant information and its analytical processing, there is an urgent need for an entity to implement modern information systems.

Information support is a complex and multifaceted process that uses all the achievements of modern information technology, latest computer technology, all of which allow the successful management of interaction between departments. Well-organized information system as a mechanism of structural units' interaction provides new opportunities to organize relevant information according to specific needs of managerial staff of the company.

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