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THE ROLE OF INFORMATION TECHNOLOGIES IN ENTERPRISE MANAGEMENT

РОЛЬ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ В УПРАВЛІННІ ПІДПРИЄМСТВОМ

Modern economic conditions, characterized by the dynamic transformation of the external environment, rapid scientific and technological progress and the constant shortening of product and service life cycles, compel enterprises to systematically seek sources of improved operational efficiency. One of such sources is the use of information technologies (IT) in the management of business processes within an enterprise.

There is no universally accepted definition of the term “information technology” in the academic literature. For instance, Lebid O. [1, p. 102] defines modern information technologies as “a set of methods, production processes and software-hardware tools integrated for the collection, processing, storage, distribution, reproduction and use of information in the interest of its users”.

According to Shevchuk I.B. and Vaskiv O.M. [2], information technology is a purposefully organized set of information processes using computing tools that secure high-speed data processing, rapid information retrieval, data distribution, access to information sources regardless of their physical location.

According to the UNESCO definition, information technology is a complex of interrelated scientific, technological, engineering disciplines that study methods of effective organization of labor for people involved in processing and storing information; computing technologies and methods of organizing and interacting with people and production equipment, their practical applications as well as the social, economic and cultural issues related to all these areas.

Research of the results of implementation of information technologies in enterprise management allows to separate a number of advantages and

disadvantages. The key advantages of using IT in enterprise management are the following:

- enhanced controllability;
- reduced human error;
- less paperwork;
- improved speed and reliability of information;
- cost reduction;
- optimized accounting and control;
- increased transparency of information for investors;
- possibility to increase the market share [3].

However, the following disadvantages of IT implementation in enterprise management may be pointed:

- static nature, equipment updates, training of staff, high expenses;
- growth of cybercrimes;
- dependence on Internet access;
- information exchange via the Internet makes data and business operations more vulnerable [4, p. 71–75].

Therefore, despite certain drawbacks the implementation of information technologies serves as a tool allowing to enhance the enterprise management efficiency by establishing a unified information space that contains data about rapidly changing market needs, competitiveness of enterprise's products, enterprise's production capacity, monitoring measures for plan execution, resource optimization, etc.

In today's economic realities the following information technologies can be implemented by enterprise: IT for data processing, IT for expert systems, IT for support of taking decisions and IT for management.

IT for data processing focuses on solving the tasks as to development of enterprise for which the necessary input data, known algorithms and processing procedures are available.

IT for expert systems is based on implementation of artificial intelligence to obtain the experts' consultation during the management decision-making processes.

The emergence and evolution of the new generation of IT for management – IT system for support of taking decisions – have been driven by factors such as the rapid growth in the volume of information required for decision-making, increasing complexity of data processing methods as well as significant advances in computer hardware, peripheral equipment, data transmission devices and telecommunications.

The creation of an information-analytical base of models of system for support of taking decisions would allow to equip the modern managers with tools necessary to solve a wide range of management tasks. System for support of taking decisions should include models adapted to problems related to management of enterprise of exact industry enabling to:

- accelerate the identification of optimal decisions;
- forecast the product output efficiency in the medium-term and short-term perspectives;

- assess the profitability (or losses) of products manufacture during the changes in key economic factors;
- prevent the irrational decision-making, etc.

The purpose of IT for management is to satisfy the information needs of all enterprise's levels involved in management and taking the decisions as to development of enterprise. Therefore, for management of business processes at Ukrainian enterprises the software tools helping to automate and optimize various aspects of enterprise's activity are developed and implemented. These software solutions allows to:

- monitor and analyze business processes;
- automatize routine tasks;
- secure collaborative work and communication;
- arrange security and control;
- increase productivity and efficiency;
- implement CRM systems (Customer Relationship Management) directed on automatization of business processes in marketing area, sales of goods, improvement of customer service quality and collection of customer information [5, p. 41–52].

Thus, the use of information technologies in enterprise management plays an increasingly important role in ensuring the effective operation of managerial processes while these technologies are becoming more accessible and integrated into management system. The dynamic development of information technologies acts as a catalyst for the evolution of economic and managerial information systems, positioning them as key drivers of scientific-technical progress and socio-economic advancement. Mastery of modern information technologies significantly enhances the increase of quality of decision-making processes within the enterprise.

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