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THE IMPACT OF INFORMATION SYSTEMS ON ORGANISATIONAL MANAGEMENT

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Information systems are becoming increasingly important in modern organisations. Due to the rapid advancement of technologies and the changing perception of information, a number of new spheres of human activity have emerged. In these fields, information is being formalized and analyzed to support managerial decision-making – for instance, in business analysis or outsourcing. Outsourcing, in turn, enables structural units or small teams to operate more efficiently in information-driven processes for the benefit of the business. Based on this, it can be argued that against the background of improving business processes based on effective information management, the value of information itself has increased significantly. Thus, information management is no longer limited to the simple collection and subsequent maintenance of its carriers, and has become a strategic set of management tasks, covering all actions and operations related to information in all its forms and states, as well as to the enterprise as a whole [1].

The need to access information conveniently, quickly and cost-effectively necessitates the development of procedures for creating, managing and using databases in organisations.

Management information systems are considered as valuable organisational resources and function as data processing systems. Input data is the basic material that is transformed into an information product through a series of transformation processes. Such a system includes the following functional elements that ensure the interaction of the organisation with its environment:

- data input - the initial receipt of data by an organisation, regardless of the source of its receipt or generation;
- recording - physical recording of data;

- processing - transformation of data in accordance with the specific needs of the organisation;
- transmission - information flows circulating in the information system;
- storage - reserving data for future use;
- retrieval - searching for and retrieving recorded data;
- presentation - generating reports and ensuring communication with users;
- Decision support - participation of the information system in decision-making processes at different levels of the organisation.

An information system is not only a collection of data, but also a set of interrelated processes necessary for making informed and timely management decisions. In this context, such systems are considered as decision support systems, the main purpose of which is not only to meet the information needs of users, but also to form alternative solutions to support management activities.

According to the definition given in [2], an information system is characterised as: *"...a set of interconnected components that collect, process, store and disseminate information to support decision-making and control in an organisation"*.

The following conclusions follow from the above definition:

- the definition covers the essence, mechanisms of functioning and purpose of information systems;
- An information system can be implemented in both manual and computerised versions;
- information systems have always existed in organisations and are an integral part of their activities;
- the information system should support two key functions: the organisation's operational activities and management processes;
- it is necessary to distinguish between the processes of processing operational data and generating analytical information for making management decisions;
- the information system includes the following main components: users, management tools, information retrieval and processing subsystems, technical and organisational systems.

These components can be considered as basic elements for the formation of a conceptual model of information systems in an organisational context. The modern concept of an information system involves the integration of different types of subsystems:

- Information Retrieval System (IRS);
- Question-Answering System (QAS);
- Database System (DBS);
- Management Information System (MIS);
- Decision Support System (DSS).

In the context of managing an organisation, the most critical is the management information system (MIS), which functions as a subsystem of the organisation's overall information system. The MIS is an integrated information resource management system designed to provide managers at different levels of management with relevant,

timely and structured information necessary for the effective performance of management functions in a particular organisation [3].

MIS is a system that uses formalised procedures to provide management personnel at all levels of the organisational hierarchy and in all functional units with relevant information generated from data from internal and external sources in order to make timely and effective decisions on planning, coordinating and controlling the activities of the relevant organisational units.

The emphasis is on three key management functions - planning, coordination and control of activities, which form the basis of any management process. The key function of MIS is to transform primary data into structured information and make it available to end users. Thus, MIS is used in organisations to achieve the following goals: support planning and control of operational activities, manage uncertainty, ensure adaptation to changes in the external environment and initiate organisational transformations.

A deep understanding of organisational processes and structures is a critical factor in the successful development of an information system. The information system operates within the organisational structure, and its purpose is to ensure the achievement of the organisation's strategic and tactical goals. Paper [4] defines the organisational model of functioning:

"An organisation is a model in which a significant number of people perform complex tasks and interact with each other through systematically established communication links to achieve agreed goals".

The development of an effective MIS depends on a deep understanding of real organisational processes, as the formal relationships reflected in formal organisational charts do not always correspond to key information flows and decision-making processes. In practice, employees often modify standardised formal procedures by using informal communication channels and alternative ways of solving tasks to improve work efficiency. Therefore, information system developers must have a thorough knowledge of the specifics of organisational processes, potential problems and factors affecting workflows.

The value of information is determined by the management actions taken on its basis. Accordingly, information technology professionals must have knowledge of the tasks and functions performed by management personnel to generate relevant and effective information. Management functions can be classified into five main groups [5]:

1. planning - defining goals and strategies to achieve them;
2. decision-making - selection of optimal alternatives;
3. organisation and coordination - structuring activities and coordinating actions;
4. leadership and motivation - stimulating staff to achieve goals;
5. control - monitoring performance and correcting deviations.

The priority of each functional group varies depending on the specifics of the position and, in particular, on the level of management in the organisational hierarchy.

The value of MIS for management is critical for organisations of all sizes, including the smallest ones, where direct observation of all operational processes is not possible.

Managers make decisions, formulate plans and monitor activities using information obtained from both formalised systems and informal communication channels: face-to-face meetings, telephone conversations, email, corporate messengers and social media.

MIS is usually considered as an integrated human-machine system that provides information support for operational activities, management processes and decision-making in an organisation. In essence, MIS is a specialised system designed to provide information support to management. An effective MIS functions as a fast and reliable channel for delivering relevant, high-quality information from its sources to end users. The basis of an effective MIS is a carefully designed and implemented database, the functionality of which ensures the flexibility of the system and its ability to adapt to the changing information needs of the organisation.

The key characteristics of MIS include:

- Target orientation - the purpose is to meet the information needs of the management staff of a particular organisation;
- structuring of information flows - organisation of information flow in accordance with management processes;
- functional integration - combining data processing tasks by business functions (production MIS, HRMIS, finance MIS, etc.);
- flexibility of queries and reporting - the ability to generate inquiries and reports based on databases according to various criteria.

The development of MIS has led to a qualitatively new level of information resources management in organisations. The growing interest in MIS has stimulated the active development of data management methods and software tools. At the same time, it should be noted that the modern MIS paradigm focuses on the use of information as a strategic resource, not just on the technological aspects of its processing. Priority is given to managing information as a valuable organisational asset rather than technical processes of its transformation.

It should be noted that there is no universal list of characteristics that will automatically ensure the creation of an ideal MIS. It is necessary to have a deep understanding of the key principles and functions of an MIS so that its design and implementation are the result of sound decisions and professional assessments, rather than a spontaneous process that does not take into account real organisational requirements.

Undoubtedly, new technologies play an important and growing role in the development of information systems, but the process of designing and implementing an MIS should be accompanied by a thorough analysis of the feasibility and effectiveness of technological solutions. Recently, there is a tendency for organisations to order new, technologically advanced systems without proper justification for their implementation and without a thorough analysis of the design and integration of MIS into the existing organisational structure. This practice often leads to unjustified costs and inefficient use of information resources.

The study confirms the crucial role of management information systems in ensuring the effectiveness of organisational management. The MIS is an integrated tool for

information support of planning, coordination and control at all levels of management, ensuring the transformation of data into relevant information for making informed management decisions. An effective MIS allows to improve the quality of management decisions, optimise resources and provide competitive advantages.

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