

**Aldona Małgorzata Dereń** (ORCID 0000-0002-2377-4573)  
Wroclaw University of Science and Technology, Faculty of Management, Wroclaw, Poland  
e-mail: aldona.deren@pwr.edu.pl

# Information management in the enterprise

## Zarządzanie informacją w przedsiębiorstwie

### ABSTRACT

The development of modern enterprises is largely determined by knowledge and information. The latter is becoming a new type of capital that needs to be managed. The aim of the article is to present the issues of information management in an enterprise. The concept of information is multi-dimensional.

A comparative analysis of the definition of information allows it to be identified as a valuable, intangible resource of the enterprise. The article also indicates a holistic approach to information management in an organization, i.e. covering all processes taking place in the enterprise.

**Keywords:** information, company, management, functions.

### STRESZCZENIE

Rozwój współczesnych przedsiębiorstw w znaczącym stopniu determinują wiedza i informacje. Te ostatnie stają się nowym rodzajem kapitału, którym należy zarządzać. Celem artykułu było przedstawienie problematyki zarządzania informacją w przedsiębiorstwie. Pojęcie informacji jest wielowymiarowe.

Analiza porównawcza definicji informacji pozwala na uznanie jej za cenny, niematerialny zasób przedsiębiorstwa. W artykule wskazano również na holistyczne podejście do zarządzania informacją w organizacji, to znaczy obejmujące wszystkie procesy zachodzące w przedsiębiorstwie.

**Słowa kluczowe:** informacja, przedsiębiorstwo, zarządzanie, funkcje.

### INTRODUCTION

Contemporary enterprises operating in a turbulent market are looking for new solutions and business models to increase their competitiveness. Effective competition increasingly depends on the information resources possessed and the way of managing them. Information is a special resource due to the variety of functions, great variety, and the use of information technology in its collection and processing. A. Koźmiński and W. Piotrowski write about the key role of information, calling it "the material of management" (Koźmiński & Piotrowski, 1998, p. 143). The efficiency and effectiveness of information resources management are determined by the proper cooperation of individual organizational units and knowledge of their needs and information relations.

### 1. THE CONCEPT OF INFORMATION AND ITS FUNCTIONS IN ENTERPRISE MANAGEMENT

The concept of information used by representatives of many different scientific disciplines (including management) undoubtedly derives from the exact sciences. Etymologically, this word comes from the Latin *informatio*, which means: explanation, image, or notification. Information as a scientific concept probably first appeared in the 1960s with the work of Norbert Wiener on cybernetics. At that time, he defined information as "the name of the content taken from the outside world" (Forlicz, 2008, p. 13). It should be emphasized, writes M. Kłodawski, that the multitude of shots and applications accompanying him from the beginning not only did not lead to the development of the definiens of "information" elements commonly accepted in formal sciences

but even contributed to the astonishing, especially due to the intuitively attributed to these sciences precision and consistency of findings, terminological disorder, which was brought to an end only by Norbert Wiener's cybernetics and Claude Shannon and Warren Weaver's mathematical theory of communication (Kłodawski, n.d.). Such a definitive attitude adopted by these precursors of computer science (justified and understandable especially in the quantitative information theory formulated by Shannon and Weaver (1949)) gained the approval of information and communication theorists, gaining it as a model method of presenting information. An alternative is an even more radical view that information cannot be defined. In the opinion of supporters of this approach, we can only indicate examples of the use of "information" in statements.

According to M. P. Jankowski (2010), attempts to define information "are always accompanied by a certain vagueness, supplemented with a description that emphasizes aspects important for a given field of knowledge", which has a significant impact on the lack of a precise, unambiguous and exhaustive definition of it.

In terms of management sciences, information is a factor supporting the management process, as well as a significant capital in the management of an enterprise. Effective use of this capital with the use of modern technology creates and strengthens the company's position in the market and delineates new areas of its operation. "In a dynamic environment, these organizations are able to survive and compete effectively, learn quickly and create organizational knowledge. The boundaries between processing information and knowledge creation are becoming more and more blurred, the reason for this is the constant technological advances in information technology. Information technology significantly supports the creation of knowledge" (Kłak, 2020). In the opinion of J. Penc, "information is a catalyst for management, a factor that unites management functions and determines its effectiveness," and this author adds that "in Western companies, information becomes even the subject of planning, organizing, coordinating and controlling, that is, to be managed" (Penc, 1994, p. 83). So information has become an economic resource.

According to P. F. Drucker (1995, p. 18), "the basic resource of the enterprise is not there is capital, mineral deposits, or labor, but knowledge. They will play an increasingly important role in it to play knowledge workers". G. Stonehouse and J. Pemberton (1999) in turn recognize that "key competitiveness features are usually built on a foundation knowledge of an organization, (...) knowledge changes rapidly over time, and thus organizations they must become «intelligent» and remain focused on creation and management knowledge underlying their competitive advantage". G. Stonehouse and J. Pemberton (1999) recognize that "key competitiveness features are usually built on a foundation knowledge of an organization, (...) knowledge changes rapidly over time, and thus organizations they must become

«intelligent» and remain focused on creation and management knowledge underlying their competitive advantage".

The growing importance of information in the management process results directly from the functions they play for the individual, organization, and the entire economy. Key features are:

- cognitive function – information makes it possible to learn about a specific fragment of reality in which human activity takes place, warns against dangers, allows to recognize the intentions of others, maintains identity and organizational culture, etc.;
- motivational function – the information indicates the goals that the participants of the organization should pursue, gives them value, enables the association of personal goals with goals organization, influences people's emotions;
- coordination function – information contributes to more efficient delivery goals; thanks to them it is easier to make decisions at various levels of the organization's management;
- control function – information makes it easier to control the progress of work of units, groups (teams), and entire organizations.

The function catalog presented above can be supplemented with the following function:

- planning (information facilitates planning);
- organizational (thanks to the information, it is possible to organize work processes of both individuals and groups or entire organizations more efficiently);
- decision-making is that a decision is one of the forms of information (information creates a decision) and that it provides the information necessary to make a decision. In the latter case, the information should concern both the decision problem itself and the procedures that can be used in making decisions;
- controlling – transmitting information wants to evoke an alternative reaction;
- recipients. In other words, the sender of the information tries (with varying degrees of strength and success) to influence the position of another person or persons. This function is of particular importance in the case of managerial decisions;
- modeling – it results from the fact that the economic system can be presented for information and the fact that the economic system cannot be fully recognized, which leads to its modeling. In practice, we most often use information models made of text, images (e.g. mathematical, economic), or sound information.

## 2. HOW TO EFFECTIVELY MANAGE INFORMATION IN AN ENTERPRISE

The lack of a uniform definition of the concept of information implies a variety of defining the concept of information management. In the literature, it is referred to as informa-

tion resource management (IRM). The business dictionary defines IRM as “techniques for managing information as a shared organizational resource” (Stephen, 2007). Information resource management includes:

- (1) identification of information sources,
- (2) the type and value of the information they provide; and
- (3) methods of classifying, valuing, processing, and storing this information.

Information resource management (IRM) is a broad term that in IT refers to the management of records or information or datasets as an asset. This may be for business or government purposes. Information asset management is about identifying data as an asset, categorizing it, and providing different types of proactive management. Experts describe IRM as the process of managing the life cycle of datasets, from their creation, through their use in IT architectures, to archiving and possible destruction of volatile data. The term IRM can refer to software assets, physical deliveries, materials, or personnel involved in information management at any stage of use.

According to A. N. Smith and D. B. Medley (1987, p. 68), information resource management mean registering, processing, collecting, and delivering information with the use of computers in order to recognize events that determine the functioning of the enterprise. The discussed term is also equated with activities aimed at obtaining information, securing it, using it, disseminating, and transmitting it.

D. Oliveira (1996) defines information resource management as “the process of transforming data into information used by the company’s decision-making hierarchy”. Management information systems are able to provide more consistent information for decision-making, providing a contextual view of the present and the past, and allowing managers to develop more realistic forecasts. IRM can improve productivity and quality; reduce operating costs; decentralize the decision-making process.

In the literature on the subject, information management is used as a synonym for information systems, information technology, data management, and systems engineering, among others. In practice, however, information management is more than that. Modern information management uses information technologies, cybernetics, systems engineering, information and computer science concepts, information management systems, engineering, office automation, and business and management principles to plan, manage and control one of the most important resources for the survival of the enterprise in the current market – Information. D. Butcher and J. Rowley (1998) consider information management to be a discipline that includes planning information policy throughout the organization, development, and maintenance of integrated systems and services, optimization of information flow, and the use of state-of-the-art technologies to meet the requirements of end users, regardless of their status or role in the organi-

zation. Based on this basic idea, Butcher and Rowley (1998) proposed the “7R information management model”. In this model, R represents the information cycle, from reading information to recognition, reinterpretation, review, release, restructuring, and finally recovery.

Information management in an enterprise can be defined as a set of activities including principles, techniques, systems, and devices that define the information and communication structure of the enterprise, which is the basis for decision-making processes. The main tasks of information management in an enterprise include:

- a) planning, developing, and implementing the company’s information strategy subordinated to its information policy;
- b) controlling information flows in the enterprise communication network;
- c) planning investment funds for the development of information systems;
- d) ensuring the efficient operation of information systems supporting the introduction of new systems, for example, customer relationship management (CRM) systems;
- e) information quality management, i.e. ensuring that the information used by the management has as many attributes of good-quality information as possible;
- f) creating conditions ensuring the security of information collected in the enterprise (setting access rights to information);
- g) ensuring effective forms of education and development of information staff and system users;
- h) integration of information systems used at different management levels and in different functional subsystems;
- i) designing innovative and adaptive actions;
- j) implementing initiatives aimed at ensuring customer loyalty (Frąś, 2011).

Information management in the enterprise performs all traditional management functions, i.e. planning, forecasting, financing, organizing, managing, training, promotion, control, and other activities related to the creation, collection, processing, maintenance, and circulation of information. Moreover, information management applies to every level of management in the enterprise: operational, tactical, and strategic. Information management in an enterprise can be seen in a static approach, as information resources management, and in a dynamic approach, as information processes management. The latter includes planning, organizing, supervising, and controlling the implementation of activities at individual stages of information processes, including the management of information and information technologies used in them.

The essence of modern information management processes in a company is that the right information at the right time is in the right place and at a specific entity, regardless

of the type of information or its source. The selection of information, and the ability to create appropriate analysis on its basis, make information a valuable intangible resource in business operations.

I fully agree with J. Oleński (2001), who points out that effective information management in an enterprise should focus on collecting information that is used in a systematic, continuous manner and relates to permanent, repetitive, and key tasks for the organization. Moreover, the enterprise should have its own meta-information system, i.e. information about the information it reaches for when in-depth interpretation and assessment are necessary.

Employees should have knowledge of para-information and para-information systems, i.e. referral information. This makes it possible to use identified, well-assessed sources for information when information is needed. Information needs are twofold: either systematic, constant information needs – some information is needed daily, others once a month or quarterly, or situational – certain information is needed when a specific decision situation arises. And then you should collect all possibly relevant, i.e. essential, information in a short time. To do this quickly and cheaply, you need an information system (Zarządzanie informacją..., 2022). If a company identifies information resources of strategic nature, it can determine which ones are worth buying and keeping physically at home, and which are not worth buying, but you need to ensure access to them. It is important in this case to know whether the source of information to be referred to when necessary is reliable and credible. Modern information technologies make it possible to dynamically respond to information needs.

## SUMMARY

The approach to information management in the enterprise should be holistic, that is, it should cover all processes taking place in the organization. It is not about collecting and storing "all information". Information that is to be an efficiently used enterprise resource must be purposefully shaped and must be included in the management process. It allows you to segment the information that is important and valuable for the company, constituting its intangible asset.

Information management in an enterprise is a process of conscious and deliberate control of the flow of informa-

tion. Purposeful, planned management of the flow of information, i.e. its collection, processing, and sharing, serves the implementation of the adopted market action strategy. Access to relevant information, is reliable, verified, in the right form, in terms of language and time, and is of strategic importance for the company.

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