

THE ROLE OF PROCESS MANAGEMENT IN THE IMPLEMENTATION OF AN ERP CLASS IT SYSTEM

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Purpose: The purpose of the study was to identify the importance of process management in the success of ERP information system implementation.

Design/methodology/approach: The main sources of analyzed information are: the results of participant observation of the author of the article, a case study based on a face-to-face interview with the manufacturer and, at the same time, an expert making implementations of an ERP class information system. A literature review was also performed.

Findings: Based on a survey conducted at a company implementing an ERP Work Manager information system, it can be concluded that there is a need for organizational knowledge of business processes, which has a strong impact on individual calculation of the benefits and effort of implementing integrated information systems.

Research limitations/implications: In the future, it is suggested to conduct similar surveys on a wider scale. Surveys should be conducted among representatives of organizations in which such solutions are not yet in place, i.e. among users. There are lasso intentions to conduct research in the analyzed area in organizations belonging to the micro, small and medium-sized enterprise sector. In the case study, the expert in the case study referred only to medium-sized companies. Surveys in the environment of companies belonging to the SME sector are planned for the second quarter of 2024.

Practical implications: Polish business owners should continue to look for ways to effectively use the assumptions of process management in the implementation of ERP systems. Learning in detail about the organization's business processes, will have an impact on eliminating or reducing the barriers associated with such action.

Originality/value: The analysis performed in the article is a response to reduce the risk of failure of the implementation of an information system of the ERP class of thinking in Polish enterprises, especially in the small and medium-sized sector. The value of this article is also to make entrepreneurs aware of the virtues of process management, which supports the adaptation of organizations to the ongoing digital transformation.

Keywords: process management, Enterprise Resource Planning (ERP), business processes.

Category of the paper: Research paper.

1. Introduction

Today's organizations face the need to adapt their structures and processes to the demands of a changing market. Process management in an organization has been identified for many years as a particularly important management concept. Nowadays, both in the literature and in business practice, there is an increasing emphasis on the importance of knowledge and the use of knowledge to optimize the company's used resources. Therefore, process management is a fundamental mechanism to prepare an organization for the successful implementation of an ERP information system. For today's enterprises, implementing an integrated information system is both a big challenge and an opportunity to reduce bad business decisions in a changing market environment. The success of the implementation is undoubtedly determined by the awareness of the processes taking place in the organization, but also by the maturity of the companies' employees in process thinking.

2. Method

The materials collected and presented in the article provide a synthetic description of the various stages of the importance of process management in the implementation of ERP information systems. The research activities, which were carried out in 2022, resulted from the available ERP system implementation reports of the company producing the WORK MANAGER system (participant observation), as well as a personal interview conducted with the developer of the WORK MANAGER ERP system and at the same time an expert in the implementation of information systems supporting the management process (case study). For the case study using a personal interview, the expert identified 15 medium-sized enterprises among those served in his own business. The selection of the group of 15 enterprises for the study was done using the purposive method, and the selected research subjects were enterprises where management representatives had adequate knowledge of process management initiatives.

3. The concept of process management in a modern enterprise

Process management creates a rationale for building a system based on the ongoing processes of the organization, which is a combination of strategy and goals in line with customer expectations (Grajewski, 2012). Strategies are established through a process of research, design, and ultimately, execution to improve an organization's business processes (Zaini, Saad, 2019).

In this view, the concept is regarded as classic process management. It assumes identification, modeling, automation, control, measurement and optimization of business processes taking into account the implemented strategy, thus increasing the efficiency of the entire organization (Hermkens, Buuren, Kort, 2022).

Contemporary studies point to the need for companies to evolve towards comprehensive business process management. This means the need to integrate and coordinate the process in modern organizations towards integrated process management. Thus, classical process management becomes one of the main directions of solutions not only of theoretical concepts, but also of practical solutions of integrated process management (Łukaszczuk, 2016). Under these conditions, the evolution from classical to integrated process management becomes one of the main directions of practical solutions and theoretical concepts. It is also the basis for the successful implementation of ERP information systems.

Integrated process management, based on the consistency of the process-project-knowledge triad and the synergy occurring between them, is realized through a structured combination, alignment of concepts and methods based on the process approach (Nowosielski, 2018). It encompasses the dynamic and comprehensive impact on the organization's processes, in line with the strategic goals of building value for customers and other stakeholders. Integrated process management builds on classic process management while ensuring higher efficiency and adaptation to changing environmental conditions (Badakhshan, Conboy, Grisold, vom Brocke, 2019).

Process management is about optimising the structure of organisational elements because of their impact on the value creation of the final outcome of separated processes (Ryzhakova, Ryzhakov, Petrukha, Ishchenko, Honcharenko, 2019). It is worth mentioning here that the main advantage of the process view is to break down organisational rigidity, in which functions or units are often isolated from each other and perform mutually exclusive functions (Sliž, 2022). This will have the effect of increasing the importance of attitudes such as genuine creativity and innovation, courage, openness and empathy in dealing with customers, direct communication (Szmidt, Sidor-Rządowska, 2021).

When building a process management system, the organisation should be guided by the following guidelines (Harmon, 2019):

- identify process maps and optimise the company's activities to meet its strategic objectives based on individual and group employee processes,
- communicate strategic objectives and gain acceptance of planned activities,
- define and confirm the knowledge, skills and competences of the members of the organisation necessary to achieve its objectives,
- carry out a valuation of the actions undertaken so that their results can be monitored and, if necessary, corrected at the implementation stage in terms of compliance with legal and ethical standards.

Building a process management system in organisations is a quantitative and qualitative challenge. This process requires the construction of a coherent process management system based on field-proven systems, models and tools, supplemented, extended or modified as a result of expert support (Nian, Liu, Huang, 2020). It is necessary to segment the processes into those that are associated with significant implementation costs and those that do not have a significant impact on the resources consumed and the associated costs. Identifying processes at this stage allows the most effective solutions to be implemented in the future to evaluate and optimise them for efficiency. In this situation, it is possible to mention optimisation in relation to the effectiveness of the implementation of the chosen ERP IT system.

The evolution of process management is a response to the increasing turbulence of the environment and the changes taking place within the company, the increasing complexity of internal and external processes, as well as the individualisation of customer needs and expectations (Lizano-Mora, Palos-Sanchez, Aguayo-Camacho, 2021).

The demands of today's macro and micro-environment of organisations do not allow process and knowledge issues to be treated separately. Companies that choose to do so are condemning themselves to market failure as a result of losing the possible synergies that could be created if a holistic approach integrating these management concepts were taken. The use of knowledge makes it possible to achieve significant benefits in terms of structuring the way a company operates, the processes it carries out, reducing costs, increasing flexibility and transparency, identifying processes, customer orientation and improving its competitive position (Kosieradzka, Rostek, 2021).

Building such a market position requires an organisation to be constantly engaged in knowledge management processes. It is not enough just to have knowledge, but it must be „in motion”. Knowledge becomes meaningful when it is used (Wąchol, 2020). The mere fact of having it and storing it does not create value; on the contrary, using old and outdated knowledge results in „negative value” for the organisation (Chopra, Saini, Kumar, Varma, Mangla, Lim, 2021). For this reason, knowledge management cannot be a one-off activity; it must become an ongoing process within the organisation. The knowledge management process consists of three sub-processes (Śmiałek, 2016):

- knowledge distribution, whereby members of the organisation are guaranteed access to the knowledge contained in the organisation's resources,
- organisational learning, which means acquiring knowledge and developing existing resources,
- knowledge production, whereby information is transformed into useful „here and now” knowledge, from the organisation's perspective.

Knowledge management is a process that should have been in place for as long as the organisation has been operating (Corrêa, Ziviani, Carvalho, Faria, Parreiras, 2022). In their daily work, managers should keep in mind a regularity that reminds them of the cyclical nature of the different processes carried out in the knowledge management structure (Nwankpa,

Roumani, Datta, 2022). Combining knowledge management with process thinking has the effect of creating awareness of constantly changing processes. As a consequence of such views, there is full conviction for continuous improvement of ERP systems which ultimately translates into the quality of reported company data.

Knowledge management processes in the organisation interact and intertwine (Zwierzchowski, 2022). While it is possible to detail the stages in the knowledge management cycle and their consequences, each of these elements can (and should) influence the shape of other stages in the cycle (Di Vaio, Palladino, Pezzi, Kalisz, 2021).

Process models must be integrated with the implemented workflow models and the process data generated during process execution. In addition, process models must be designed to use resources more efficiently. One way to accelerate the response to the organisation's changing environment is to use best practices related to process knowledge, especially the knowledge of process participants (Avila, dos Santos, Mendling, Thom, 2020).

A key strategic challenge for organisations is the need to continually adapt processes to the increasing speed of business in order to keep up with ever-changing technology. This means that organisations need an acceleration of the process life cycle, a greater frequency of analysis and change of the indicated processes, perhaps even continuously (Satyal, Weber, Paik, Di Ciccio, Mendling, 2019).

4. Process approach as a stage in the implementation of an ERP information system

The considerations presented in the theoretical part are reflected in the implemented research part. In the case of process management based on knowledge resources, we are dealing with the acquisition of knowledge, its consolidation in the processes taking place and the dissemination of knowledge within the organisation. All these activities, undertaken by organisations, are aimed at achieving tangible benefits that respond to the challenges posed by the contemporary market. One of the challenges is to build awareness of the need for process management resulting from the gap that exists in many companies between the organisation's processes and the ERP information system implemented (Rotchanakitumnuai, Speece, Swierczek, 2019).

Organisations identified by the expert interviewed declared that incorporating process thinking into their ERP implementation activities brings significant benefits (Figure 1). They included among these benefits: the ability to have an up to date assessment of the situation in the organisation (33.33%), support in finding the business needs served by ERP (53.33%), and an indication of the ERP vendor's capabilities when selecting a supplier (13.33%). The main benefits identified in this way have a strong impact on the customisation of the

integrated IT system to the specifics of the enterprise. Adapting the system to the specifics of the enterprise significantly increases implementation success and efficiency.

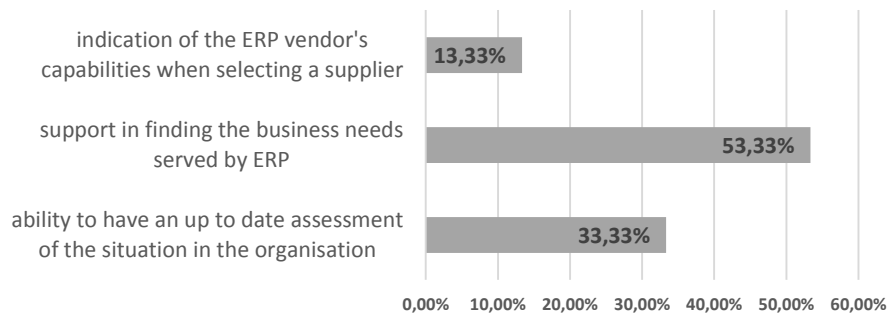


Figure 1. Main benefits of using process management in the ERP implementation process.

Source: Personal analysis of the data gathered in the study.

At the beginning of the article, a statement was made: the need to know the business processes has a strong influence on the individual calculation of the benefits and effort of implementing integrated IT systems. Therefore, conscious modelling of business processes plays an important role, especially in the first stages of an ERP class information system implementation (Rajaratnam, Sunmola, 2020). This state of affairs, provides answers to a set of questions:

- How to close the gap between business requirements and business process design and ERP IT system implementation?
- How do you ensure that your ERP information system is compatible with your company's end-to-end business processes?
- How do you make sure that the plan documentation reflects the actual implementation?
- How to improve communication between IT experts and end users during and after implementation?

In the case of organisational management, which also includes the implementation of IT systems, conscious process management is a necessary element. This is a significant element of operation, as only a defined, described process can be further analysed, simulated and improved, optimised. Once such a detailed analysis of all the processes occurring in an enterprise has been performed, it is safe to proceed with the creation of an ERP implementation plan. The 15 companies surveyed by the expert in the interview were asked whether the identification of processes in their business has an impact on the success of the implementation of an ERP IT system. Consequently, whether this is an action that should be taken. The answers in this case were almost unequivocal (Figure 2). Only 13.33% of businesses found it hard to comment.

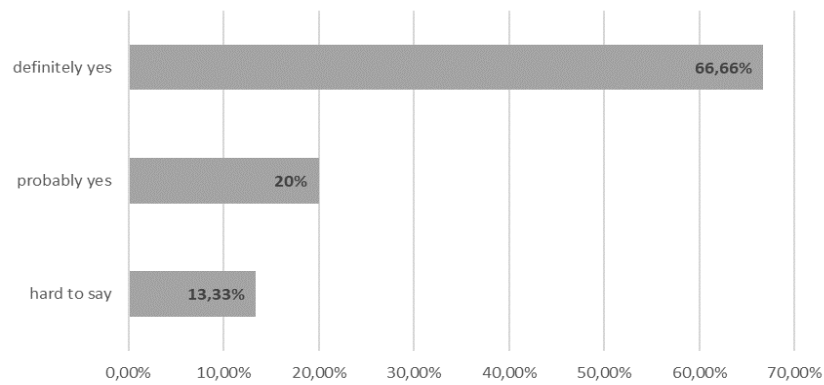


Figure 2. Does the identification of processes in a company's operations affect the success of an ERP implementation?

Source: Personal analysis of the data gathered in the study.

Simulation activities are undertaken on the basis of models of processes occurring in the organisation and the results of their optimisation. This is due to the fact that before implementing a process, it is necessary to check how the process will run and what effects it will have on the organisation, the functioning of the ERP system or its environment (with system functionalities extending beyond the organisation). In this case, opinions are not as clear cut as they were in the previous question (Figure 3). A significant proportion of organisations fail to determine whether the simulation of activities carried out has a beneficial effect on the organisation. This is explained by the fact that the direct benefits of running a simulation are not actually quantifiable. The potential of simulation, on the other hand, is seen by managers indicating a „probably yes” answer, as these activities make it possible to avoid future, sometimes costly errors in processes and, consequently, in the implementation of an ERP system. It enables better process design and verification in a secure test environment.

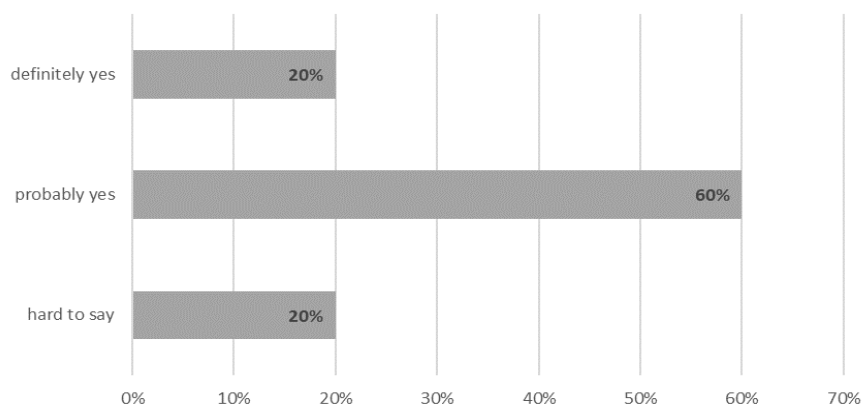


Figure 3. Benefits of implementing process management in an ERP information system implementation - process simulation.

Source: Personal analysis of the data gathered in the study.

Analysing the results of the research conducted, it can be concluded that undoubtedly companies see an opportunity to improve their effectiveness of the implementation and use of an ERP-class information system, by performing the identification and analysis of business

processes in advance. This is clearly visible in the structure of the responses to the research questions. The organisations invited to participate in the study belong to the group of those that are aware of the processes taking place in them and at the same time realise their importance for their current and future functioning. These are organisations that have implemented process management in their operations, and the vast majority of them consciously use this way of thinking in the use of the implemented ERP class IT system. This is an unmistakable sign of the changes taking place in the market, and given the significant need to increase the effectiveness of ERP class information systems implementations, we can speak of the necessity of implementing process management before introducing integrated information systems into the organisation. Companies that have chosen to use process management prior to implementing an ERP information system must be ready to embrace change. The very fact of using knowledge resources means that organisations must be ready to continuously identify, model, optimise, simulate, monitor, report and improve their processes.

5. Conclusion

The article cites 2022's own research, which was a case study and literature research. The case study was based on an analysis of 15 Polish medium-sized process managed companies. They clearly indicate that Polish enterprises are also becoming aware of the need not only to take care of their current processes, but also to adapt them to changes both dictated by the environment and resulting from the organisation's internal conditions. These changes increasingly include the implementation of ERP class IT systems. For the implementation of the indicated tasks, it is absolutely necessary to reach for process management in order to reduce the level of risk of implementing changes.

The research is also a source of knowledge for managers implementing ERP implementation projects. The considerations presented in the article have both cognitive and applied value.

The changes taking place in a dynamic environment, the lack of clearly defined processes, the operating management standards adopted in a modern company and the growing competition have forced the decision to look for solutions that will increase the effectiveness of the implementation of an ERP class information system (Grochowski, 2022). One important mechanism, unnoticed by entrepreneurs, is the inculcation of process thinking and, at a later stage, process management. Therefore, entrepreneurs mainly highlighted such benefits: the possibility of an up-to-date assessment of the situation in the organisation, support in finding the business needs supported by the ERP, learning about the capabilities of the ERP vendor when selecting a supplier.

Despite the long standing existence of Enterprise Resource Planning class systems on the Polish and international market, 25% of implementation projects fail and 50% fail to meet customer expectations. One of the fundamental factors increasing the level of effectiveness of an ERP implementation is the need for organisational knowledge of business processes, which has a strong influence on the individual calculation of the benefits and effort of implementing integrated IT systems.

The maturity of an organisation, understood as an appropriate level of development of the processes, structures, people and systems that make up the organisation, is one of the factors involved in the process of implementing an ERP class information system.

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