

## **Abstract**

In the modern economy the service sector is becoming more and more dominant – this phenomenon is referred to as servitization. The services are one of the most important and fastest growing sectors of the Polish economy – both before and during the COVID-19 pandemic, and their role will increase after the pandemic ends. The reasons for the servitization are seen in the improvement of the quality of life in modern society, freedom of movement, fast flow of information and globalization. The dynamic development of services is determined by IT solutions including the Internet, cloud computing, mobile and business applications, autonomous databases, blockchain, Artificial Intelligence, Internet of Things and robots. The knowledge and information are more and more often perceived as strategic resources of the enterprises. The information revolution gradually implies changes in all institutions of modern society and radically reevaluates the meaning of information – in terms of organizational as well as individual perception. Economic activity is increasingly manifested in the production of intangible goods – the services.

The modern economic system is complex and it is more and more difficult to predict or even determine the probability of the changes' directions. The current information revolution exposes that the service enterprises wishing to maintain business continuity and remain competitive in a dynamically changing environment, must have the ability to properly assess the current market situation, forecast the future situation and adapt their business processes in a quick, effective and efficient way. The COVID-19 pandemic poses many challenges for the service providers and forces them to change their business processes and IT solutions. Moreover, these changes have to be implemented very quickly. For these reasons the search for the new management concepts is especially justified in relation to the service enterprises. The organizations providing services, as never before, must constantly verify and build a potential that directly influences the competitive strategy. One of the elements of such strategy should be an agile and effective management model, integrated with IT systems providing opportunities to meet the market requirements. There are theoretical and practical reasons to base the model on a process approach and cloud computing.

According to the main thesis of the dissertation – cloud computing enables efficient business process management in the service enterprises. The analysis of the literature presents the existence of a research gap in the field of imprecise concepts and definitions, the lack of research in this area and the lack of practical indications how to manage business

processes using cloud computing. For this reason, the main goal of the dissertation is to develop and verify a business process management model supported by cloud computing. The work on the model was preceded by the research conducted among the selected service companies – due to the high level of digital maturity, the research focused on the service companies operating in the Polish banking and insurance market. The time range of the research is 2020-2021. There have been used research methods as literature analysis (in the theoretical part), comparative analysis and direct interview (in the empirical part). The results of the research were used to define the assumptions for realization the main goal of dissertation.

The interest in managing business processes with using cloud computing has been demonstrated by almost all the service companies analyzed by the research. The enterprises mostly apply a process approach to management and plan to its development in the future. At the same time, they look for solutions that will help them overcome the identified difficulties and limitations. Most companies use BPMS systems to implement their processes which are made available by their producers in the cloud computing model. The vast majority of organizations indicated the need for using business process management model supported by cloud computing.

Taking into account the literature on the subject analyzed in the dissertation and the research results, the author developed Cloud Business Process Management Model (CBPMM). In the scientific perspective, the main goal of the model is to fill the gap in literature, as well as try to prove the thesis of dissertation. In a practical perspective, the CBPMM model is designed to support management practitioners by indicating how to organize and implement business process management using cloud computing services. The components of the CBPMM model are grouped as below:

- people - managing people, their responsibilities and competences;
- processes - managing process definitions, their implementation and improvement;
- technology - management of technological resources enabling the implementation of business processes and their development.

The CBPMM model consists of nine elements that address the theoretical and practical aspects of business process management: Definitions, Roles, Competences, Resources, Processes, Artifacts, Standards, Guidelines, Relations between model elements.

The main features of CBPMM model are:

- assumption about the use of cloud computing as the basic resource in the business process management process;
- original concept of iterative implementation and execution of business process management;
- proprietary combination of the concept of implementation and execution of business process management and cloud computing;
- original concept of the "BPM round table";
- original concept of a business process management service in a computing cloud – Process of Business Process Management as a Service (PoBPMaaS);
- original definitions of key terms;
- adaptation of the potential of business process management systems;
- use of commonly available methodologies, frameworks, guidelines, standards, good practices and business process management concepts.

The CBPMM model was verified by selected experts, representatives of a group of the companies who participated in the conducted research. The subject of verification were aspects related to the effectiveness, profitability and economy of the model. The aim was to check whether, in the opinion of practitioners, the model enables efficient business process management in the service enterprises. The verification of the model confirmed its effectiveness, profitability and economy as well as a positive impact on the efficient business process management. The possibility of implementing the CBPMM model with the use of cloud services was also positively verified.

As a result of the work, the premises for undertaking the dissertation occurred to be positively verified, all research problems were analyzed and the main goal was achieved. Synthesis of the results allows to conclude that the thesis formulated in the dissertation is true and it is justified to continue research in the field of business process management supported by cloud computing. One of the research directions for further work is development of the Cloud Business Process Management Maturity Model as well as the concept of design and implementation business processes using dedicated cloud services (Cloud-Native Business Processes).

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