

FEATURES OF THE TRANSFORMATION OF THE MAIN BUSINESS PROCESSES IN THE CONTEXT OF A PANDEMIC CRISIS

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ABSTRACT

The particular importance of business resilience and its compliance with modern development trends is manifested in the conditions of modern crises, which are characterized by greater unpredictability, scope and depth of coverage of all social processes. The article presents the results of a theoretical generalization of the key directions and features of the transformation of business processes of companies and organizations in order to maintain the stability of business in the context of the pandemic crisis of 2020-2021. The main research methods are bibliographic analysis, systems approach, methods of scientific abstraction and logical generalizations. As a result of the study, it was concluded that the process of adaptation to crisis conditions took place on the basis of the transformation of the business models of companies in general and key business processes. A feature of the current transformation is a high degree of digitalization of business processes, the creation of integrated value chains, as well as a more active implementation of Industry 4.0 elements.

Key words: *Covid-19, pandemic crisis, business resilience, business model transformation, business processes, digitalization.*

JEL Classification: *E3; L16; D92*

INTRODUCTION

The resilience of business is becoming an increasingly important indicator of the success of its activities in the context of globalization of all social, economic processes. Economic growth is also important, but only if its goal is defined, clearly measured, risk factors are considered and minimized, and business processes are streamlined. The transformation of the social order, the transition to a new formational model also increases the importance of the factor of resilience [1]. And in combination with global crises, achieving business resilience becomes vital. First of all, this refers to the processes of introducing elements of Industry 4.0 into production, the transition to which began long before the Covid-19 [2]. However, the spread of the Covid-19 pandemic has had a huge impact on the speed of adoption of the elements of Industry 4.0, as "... this pandemic has expedited the efforts to ensure better strategies are available to realize the full benefits of Industry 4.0." [3, p.1].

In such conditions it is important to theoretically understand the changes taking place in business models and approaches to managing companies in non-standard conditions of a pandemic crisis and to supplement the theory of business process management (BPM) with empirical experience in maintaining business stability in difficult conditions of quarantine and a sharp restriction of international contacts.

THEORY AND RESEARCH METHODS

Studies of the most important and significant changes occurring in the business processes of various companies in the context of a pandemic of COVID-19 can be grouped in several directions.

Firstly, these are studies on changes in business processes related to the supply and sale of products, the formation of supply chains, and sales activities [4]. These areas of companies' activities have been most impacted by drastic restrictions on transport links (transportation and delivery of goods), bans on off-line retailing, including complete closures of stores and the disruption of resilience supply chains. This significantly influenced such business processes and blocks of business models as interaction with customers, distribution channels, and consumer segments.

Secondly, the process of forming values is closely intertwined with the listed business processes. This area has also undergone a dramatic transformation during the pandemic, which has had a particularly strong impact on the consumer market. The pandemic of COVID-19 has made major changes in the consumer behavior of people and companies. As a result of self-isolation and quarantine, people had to abandon many of their traditional behaviors. However, the construction of new value chains strongly depends on "on chain actors capacity to adapt to change, namely to be resilient" [5, p.1].

Thirdly, these are the issues of Industry 4.0 implementation already identified earlier [6]. "The Industry 4.0 paradigm has opened high potentialities to implement new business and operational models" [7, p.119]. And as studies by Butt, J. from Essex

University (United Kingdom) have shown, “The pandemic of COVID-19 has expedited the planning phase, with organizations moving swiftly towards Industry 4.0 implementation” [3, p.26].

Based on modern scientific approaches and empirical studies of assessing internal and external factors of business resilience, we formulated the features of business process management in companies during a pandemic crisis and the main conclusions and directions for improving the management of individual business processes to achieve higher business resilience in a pandemic crisis.

The work is a theoretical generalization of the main conclusions and theoretical hypotheses available in the modern scientific Russian literature on the problem of business processes transformation of commercial organizations in the conditions of Covid-19. The main research methods are bibliographic analysis, systems approach, methods of scientific abstraction and logical generalizations.

The main conceptual provision underlying the analysis is the thesis that business processes can be depicted as a value chain, differentiating the main stages of the results formation, and a step-by-step analysis of the necessary changes in the value chains should be started from the end of the chain, that is to begin with an assessment of the result that the external client, the consumer, receives. Results can be formed both by one and by different value chains and at different stages of the chain they can connect and diverge.

The main sources of information are scientific papers published in 2020-2021 in scientific journals, as well as reports of large companies on their activities during the quarantine and lockdown period in 2020-2021 posted on the Internet.

RESEARCH RESULTS

Business resilience depends on achieving a balance of such important components as goals (strategy, mission, and policy), system (processes, organizational structure, projects, indicators) and people. At the same time the COVID-19 pandemic affected these components, changing their ratio and in some cases completely changing their content.

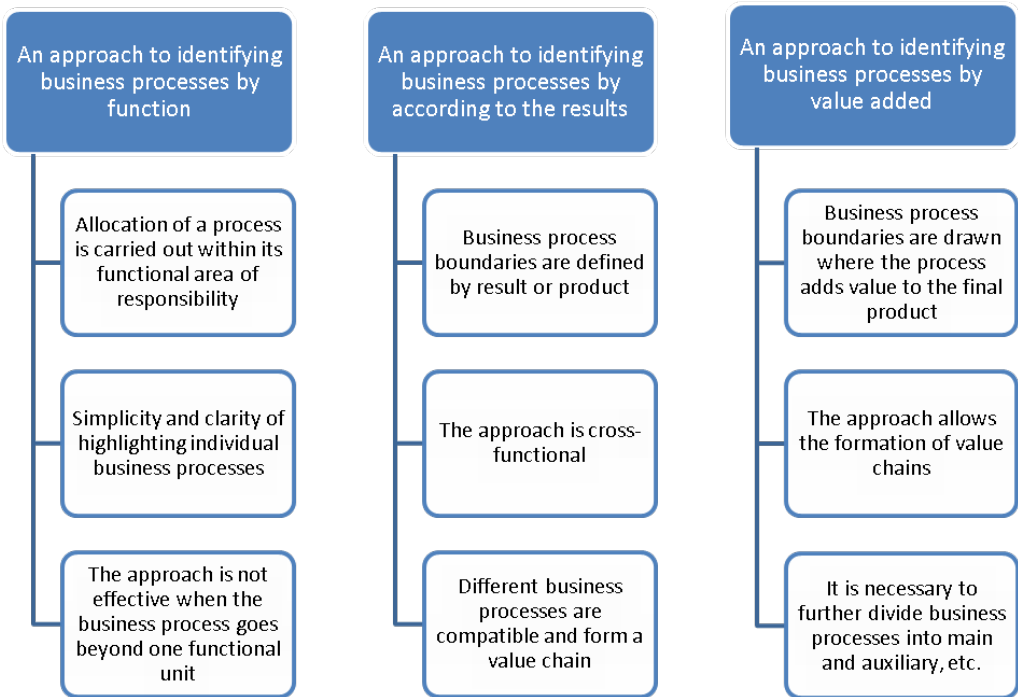
One of the main actions taken by companies and organizations in a crisis is the adjustment of the organizational structure. In the context of the pandemic most of the business models of companies have undergone this adjustment. The adjustment process was carried out on the basis of the results that were obtained in the process of forming a new organizational concept that meets the needs of society for business in the context of the fight against the pandemic.

The choice of a method or a combination of methods for transforming individual blocks of a business model to ensure a new system of interconnection of various business processes depended on the scope of the company, the business model it used, the initial level of the company's economic development, as well as on the orientation of the company's managers towards specific methods and methods of management.

Under the influence of the special conditions of the current pandemic crisis, there has been a change in approaches to the identification of business processes and their design. Management of individual business processes and their groups. Most often in the practice of business planning, three approaches are used to distinguish and delineate business processes:

- by function;
- by according to the results;
- by value added.

Features of identification and design of business processes based on these approaches are shown in Figure 1.



Source: compiled by the authors.

Figure 1. Basic practical approaches to identifying business processes

In the process of companies' response to a sharp change in the conditions of doing business and economic activity and the transformation of business processes, the ratio between these three approaches changed towards the widest possible use of the second approach (in terms of effectiveness) and its application to transform the business models of companies as a whole.

The results of studies of the companies' behavior in different countries in the context of severe sanctions and restrictions on doing business in a pandemic showed that during this period business processes related to the supply and sale of products, the formation of supply chains, and sales activities were most affected. These processes have undergone the greatest changes. At the same time, as shown by the research results, the most effective way to maintain business resilience in a pandemic in the framework of business processes related to the functioning of supply chains (supply and distribution) is to integrate supply chains into a single system. As Siagian, H., Tarigan, Z.J.H., Jie, F. proved in 470 Indonesian manufacturing companies, the "supply chain integration affects innovation system, supply chain flexibility, and supply chain resilience because of its ability to share complete product information and share production planning. Innovation systems and supply chain flexibility enhance supply chain resilience through the ability to deal with sudden changes in customer demand and production problems. Supply chain integration improves business performance through innovation, supply chain flexibility, and supply chain resilience in the COVID-19 era" [4, p.1].

These research results have shown such important theoretical and practical significance of the observed transformation of the supply chain system as they clearly indicate the strong influence and importance of the innovation management business process block for increasing business resilience in a pandemic crisis.

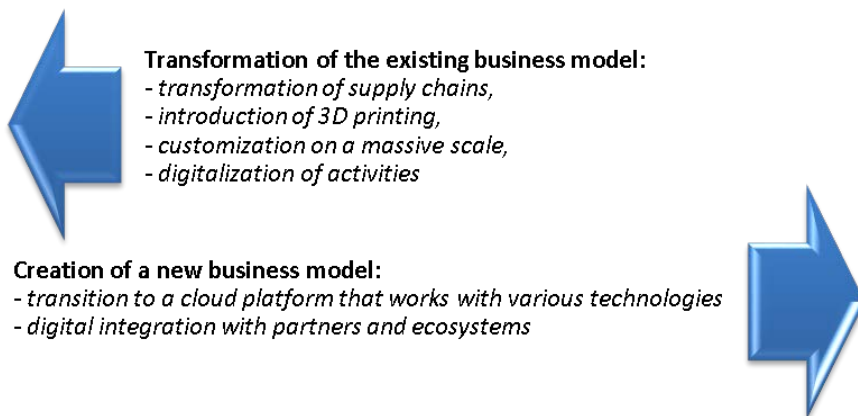
The second block of fundamental changes in business processes is the block of value propositions. As noted by Carraresi, L., Bröring, S. "The new value proposition needs to reach new customer targets more sensitive to resilience issues and / or to enhance the awareness towards bio-based technological solutions into extant customers." [5, p.1]. In turn, the success of the transformation of this block leads to the restructuring of the entire business model, which is necessary to build new value chains.

The mechanism for transforming these business processes in accordance with new goals, objectives and conditions of activity includes the identification of processes and the identification of their parameters: suppliers, consumers, outputs, inputs, performers, tasks and target data. In particular, data ownership and customer management will be critical within these business processes. However, it is necessary to keep in mind that companies need to have access to both areas.

In these conditions, the issues of digital transformation of business models in general and its differences from the digital transformation of individual business processes has become extremely important [8]. The analysis of the features and benefits of introducing digital technologies in the business models of organizations, when digital technologies become an integral part of the organization's value creation architecture, received a special impetus for development in the context of a pandemic crisis [9]. In particular, there was a clear highlighted difference between digitalization of the existing business model and digital transformation to create a new business model. While process automation, rethinking and changing the operating model is most often done locally in the engineering department, the business model transformation affects all departments and business functions and is implemented at the highest level of company management.

Analysis of 250 examples of successful digitalization by Linz, C., Müller-Stewens, G., & Zimmermann, A. showed that in the world before Covid-19, most companies focused on automating individual business processes and improving operating performance efficiency [10]. And only very few organizations have adopted digital technologies to transform the existing business model. Thus, one of the key challenges in COVID-19 is the digital transformation of the entire business model of a company, “which implies fundamental changes in the activities of organizations based on the use of digital technologies” [11, p.945].

However, it should be noted that the process of digitalization of business models in the analyzed period (2020-2021) took place in two fundamentally different directions. This allowed us to distinguish two types of digitalization of business models: 1) aimed at adapting the existing business model and 2) aimed at creating a new business model (see Figure 2).



Source: compiled by the authors.

Figure 2. Two types of digitalization of business models to maintain business resilience in a pandemic crisis

It should also be noted that as a result of active research of methods and tools for automating business process modeling that can be effectively applied, including in the context of a pandemic crisis, the first flexible iterative methodologies for designing business processes have already been created. This is, for example, a methodology for developing business processes using tools to automate the transformation of user stories into a business process model [12]. These areas of business model transformation should also be considered when shaping management approaches in the post-pandemic period.

In addition, an analysis of the behavior of various companies in the context of COVID-19 showed that a sharp increase in electronic interaction and the transfer of many business operations online led to an intensification of the transition from the process of digitization (data conversion into digital form) to digitalization, which is

focused on “ organizational process "or" business process "of technological change in industries, organizations and markets [13]. The digitalization of the manufacturing industry has allowed the creation of new production processes using the key technological trends of Industry 4.0 and its design principles [14].

Thus, the main transformational efforts to maintain business resilience in the context of COVID-19 were concentrated in such basic blocks of business models as value management, sales and supply management, customer interaction and digital transformation.

CONCLUSIONS AND RESEARCH DIRECTIONS

An organization is a holistic and interconnected organism with a certain stability and resistance to various external and internal changes. However, in conditions of sharp and crisis shocks this stability can be violated that leads to bankruptcy. Disruption of resilience within the framework of individual business processes of the company can also lead to negative consequences.

Maintaining business resilience is ensured by improving the business model of the organization and should be carried out in an integrated manner, considering all the relationships, not based on a separate element. The degree of resilience is determined by the increase in results while reducing costs, not necessarily in monetary terms.

The article shows that in a pandemic crisis business resilience can be achieved through the transformation of individual business processes integrated into the system of closed value chains. It also shows the high importance of the mechanism of digitalization of the business model and of individual business processes.

Further research on maintaining business resilience in a pandemic and in the post-pandemic period is expected to be carried out on the basis of an analysis of the transformation of approaches to personnel management of the company, an assessment of the transformation of the personnel motivation system, as well as issues of digitalization of workplaces.

The importance of this line of research is determined by the fact that it is people (workers, managers, and owners) who have experienced all the variety of pandemic’s consequences.

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