### AD ALTA: JOURNAL OF INTERDISCIPLINARY RESEARCH

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ADDRESS: CESKOSLOVENSKE ARMADY 300, 500 03, HRADEC KRALOVE, THE CZECH REPUBLIC, TEL: 498 651 292, EMAIL: INFO@MAGNANIMITAS.CZ

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## J INDUSTRY

# CURRENT STATE OF RESEARCH AND NORMATIVE FRAMEWORK REGARDING ASSESSMENT OF FIRE ALARM SYSTEMS SUITABILITY FOR 245 OPERATION

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## OPERATIONAL MANAGEMENT OF SERVICE FIELD ENTERPRISES UNDER THE CONDITIONS OF DIGITALIZATION IN THE SYSTEM OF SUSTAINABLE DEVELOPMENT

<sup>a</sup>VIKTORIIA KRASNOMOVETS, <sup>b</sup>IEVGEN MAZNIEV, <sup>c</sup>OLEKSANDR SARANA, <sup>d</sup>OLHA SHULHA, <sup>e</sup>NATALIIA KHOMIUK, <sup>f</sup>LIUDMYLA ARTEMCHUK

<sup>a</sup>Bohdan Khmelnytsky National University of Cherkasy, 81, Shevchenko blvrd., 18000, Cherkasy, Ukraine <sup>b,c</sup>Volodymyr Dahl East Ukrainian National University, 17, Ioanna Pavla Str., 01042, Kyiv, Ukraine <sup>d</sup>Borys Grinchenko Kyiv Metropolitan University, 13-b, Levka Lukianenka Str., 04212, Kyiv, Ukraine <sup>e</sup>Lesya Ukrainka Volyn National University, 28, Vynnychenko Str., 43025, Lutsk, Ukraine <sup>f</sup>National University of Life and Environmental Sciences of Ukraine, 11, Heroiv Oborony Street, 03041, Kyiv, Ukraine email: <sup>a</sup>krasnomovets\_v\_a@ukr.net, <sup>b</sup>maznev@snu.edu.ua,

<sup>c</sup>sarana@snu.edu.ua, <sup>d</sup>o.shulha@kubg.edu.ua,

<sup>e</sup>nataliiabillous@gmail.com, <sup>f</sup>artemchuklm@nubip.edu.ua

Abstract: The article explores the unique impact of digitalization on the operational management of service enterprises, underscoring the importance of strategies and tools for optimizing business processes. These tools empower enterprises to effectively use digital technologies, increasing productivity while reducing negative environmental impact. The study also highlights the crucial role of innovative solutions in ensuring sustainable development and how digital technologies can enhance service quality, meeting consumers' evolving needs. The article concludes by emphasizing the necessity of involving the audience in implementing digital innovations into the management system of service enterprises, aligning with the contemporary demands of efficient and sustainable development.

Keywords: digital economy; digitization of business processes; service sector; digital platforms; artificial intelligence.

#### **1** Introduction

The specifics of the modern globalized world economic system show that digitization is pervasive across all spheres of activity, and operational management issues are becoming essential for enterprises in the service sector. This is due not only to the need to remain competitive in the market but also to the urgency of ensuring the sustainable development of economic entities. Operational management, as a component of strategic management of the enterprise, requires managers to continuously improve and adapt to new conditions. A critical challenge in digitalization is integrating new digital technologies and corresponding tools into business processes. This creates new opportunities to optimize and enhance the efficiency of enterprises' operational activities. However, it also presents them with the challenge of adapting to rapidly changing technological conditions.

One of the problems associated with the digitization of business processes is a significant increase in the volume of data and the need for their analysis to make informed management decisions. Therefore, in the conditions of digital transformation, enterprises receive a tremendous amount of information about their business processes, customers, competitors, etc. However, analyzing and interpreting such data can be challenging due to its volume and complexity. An important aspect of digitalization is ensuring sustainable development. This involves not only balancing resource usage and minimizing environmental impact but also addressing social aspects of business. Consequently, responsible consumption, development of human capital, and interaction with the public are becoming integral parts of sustainable development strategies for companies in the service sector.

Therefore, the problem of ensuring the effectiveness of operational management in the conditions of digitization within the framework of sustainable development is becoming particularly relevant. This requires deepening existing scientific research to develop a comprehensive approach to its solution.

#### **2 Literature Review**

The problems of operational management and the service sphere in the digital transition attract sufficient attention from researchers and practitioners worldwide.

In particular, it is necessary to note the research of N. Antoniuk [1], N. Khomiuk [13], T. Mishustina [18], and A. Verzun [34], that examine the impact of digital transformation on service management. The research results include the principles of forming strategies for implementing digital technologies in the service sector and the method of assessing their impact on the efficiency of enterprise operational management. Authors also highlight the importance of sustainable development in the context of digital transformation.

It is also worth paying attention to the study of operational management problems, considering the aspects of sustainable development and supply chains, which are highlighted in the works of I. Arakelova [2], M. Khutorna [14], M. Rudenko [19], and O. Timinskyi [31]. In particular, the authors analyze strategies that allow enterprises to ensure efficient use of resources and minimize the negative impact on the environment due to introducing innovative digital technologies into their business processes.

The works of such practitioners as I. Britchenko [3], O. Kiliar [15], T. Shmatkovska [20-26], and I. Tofan [32] are devoted to studying strategic and operational aspects of service management. In particular, they consider the importance of innovation and digital technologies in improving the quality of service and optimizing business processes. In addition, the authors examine various aspects of sustainable operational management, based on their analyses of the tools and methods that allow enterprises to implement sustainable development strategies effectively.

The works of M. Dziamulych [4-12], T. Kulinich [16-17], R. Sodoma [27-29], and I. Tsymbaliuk [33] are devoted to the study of the peculiarities of implementing digital innovations to ensure the effectiveness of service management, including strategic planning, designing, and implementing business processes. Additionally, the authors emphasize the importance of adapting business processes to dynamic market conditions and implementing digital innovations.

In general, we can see that operational management in the field of service in the conditions of digitalization requires a comprehensive approach that would consider the efficiency of business processes and their impact on sustainable development. This determines the need to deepen the existing scientific developments in this field.

#### **3** Materials and Methods

In studying the principles and approaches to the operational management of service enterprises in the conditions of digitalization, various materials and methods were used to analyze information and form logical conclusions.

In particular, the method of analysis and synthesis was used to develop scientific articles, monographs, and journal publications on operational management, digitalization, and sustainable development. These sources provided generalized information about modern trends and approaches to management in the service sector and identified digitalization's functional impact on enterprises' operational activities.

Theoretical concepts and operational management models were utilized to apply the abstract method, facilitating the reflection of the basic principles and operational processes in the service sector. As a result, they facilitated the understanding and generalization of critical aspects of enterprise management in this industry.

The method of logical generalization was employed to analyze research results and formulate conclusions regarding the impact of digitalization on operational management in the context of sustainable development. This approach facilitated the systematization and summarization of the acquired data, as well as the formulation of recommendations regarding optimal management strategies for enterprises in the service sector in modern conditions and the application of the "three horizons" method for the transformation of operational management of enterprises.

In general, the application of the specified materials and methods enables the formulation of reasonable conclusions regarding the operational management of enterprises in the field of services under digitalization.

#### **4 Results and Discussion**

In modern business conditions, the impact of digitization on the operational management of enterprises in the service sector is manifested in several specific features that reflect changes in the technological, organizational, and strategic spheres. In particular, digital technologies enable automating and optimizing many business processes in the service sector. For example, the use of customer relationship management systems (CRM), online booking and ordering of services, and intelligent services for analyzing customer data enabling such enterprises to effectively optimize their operations, resulting in an improved quality of service. Furthermore, the emergence of new business models and services is promoted by digitalization. As evidenced by practice, the introduction of various mobile applications for ordering services, cooperation with online platforms, or the development of cloud technologies enables enterprises to change their strategies and respond to consumer requests.

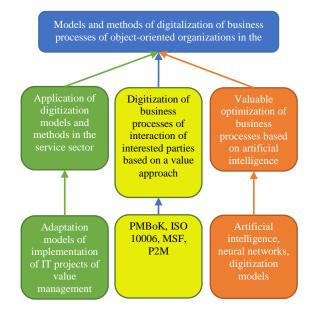
In addition, digital technologies allow enterprises to increase the personalization and individualization of services. By analyzing customer data and using artificial intelligence, businesses can provide more accurate and visualized offers, taking into account each customer's unique needs. At the same time, introducing digital technologies might require changes in the organizational culture and structure of the enterprise. Consequently, the intensive development of digitalization often involves introducing new technologies, appropriate training of personnel, changes in business processes, and management strategy.

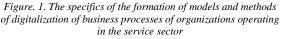
In conclusion, digitalization significantly transforms the approach to operational management in the service sector, changing not only specific business processes but also avenues and functional models of customer interaction. Thus, it opens up new opportunities for enterprises to achieve sustainable development and ensure competitive advantages.

The distinctive feature of the models and methods of digitalization of business processes of enterprises in the service sector is their focus on optimizing and improving service quality, as well as on the use of digital technologies to transform traditional approaches into more effective and innovative ones. That is why digitization models in the service sector aim to form digital platforms and ecosystems that unite customers and service providers in a virtual environment. This requires the development of mobile applications, online platforms for booking services, and virtual assistants and chatbots for customer support.

On the other hand, digitalization methods include implementing automated management systems that allow enterprises to optimize their business processes and ensure faster and better processing of orders. Recent trends in this field show that digitalization involves using more advanced analytical tools and artificial intelligence to forecast and optimize demand for services, inventory management, and resource planning. This enables enterprises to accurately respond to market changes and efficiently utilize resources. In object-oriented organizations, the specificity of digitizing business processes lies in the high level of integration of technologies and processes. This requires the development of complex systems that provide convenient interaction between objects. These systems simplify data analysis and management, and increase the efficiency of their operation.

In conclusion, a specific feature of the models and methods of digitizing business processes in the service sector is their functional focus on the comprehensive improvement of interaction with clients, ensuring service efficiency, and using innovative digital technologies to achieve the strategic goals of the enterprise (Figure 1).





#### Source: systematized by the author based on [31]

As shown in Figure 1, each option has its strengths and weaknesses. Therefore, the most suitable models for practical use are the digital networks and artificial intelligence model and the life cycle model of the digitization project. However, to use such models in digitization projects of enterprises in the service sector, they will still need to be adapted to the specified industry. Given potential gaps in the application of digitalization models and methods in service sector projects, specific directions for further research on developing new models and strategies tailored to the industry can be identified.

In practical terms, it should be noted that service companies use a variety of strategies and tools to optimize business processes and utilize digital technologies to improve productivity. A key strategy involves implementing digital platforms and ecosystems connecting customers and service providers. This strategy involves creating mobile applications, online booking platforms, and virtual assistants and chatbots for customer support. Furthermore, the rapid adoption of artificial intelligence in customer interaction since 2022 has transformed the underlying approaches of this strategy, significantly reducing company costs and improving commercial efficiency.

Another effective strategy can be defined as the automation of business processes with the help of digital tools, such as customer relationship management (CRM) systems, electronic order and transaction processing systems, inventory management systems, and individual elements of digital systems used in logistics. Automation allows businesses to reduce the time and effort required to complete routine tasks and improve the efficiency of data processing and order fulfillment.

At the same time, using analytical technologies and artificial intelligence for data analysis and making informed management decisions is an essential tool for such a strategy. Data analysis can help identify trends, forecast service demand, and identify opportunities to streamline processes and improve efficiency.

Furthermore, companies often employ a specific strategy of personalization and individualization of services. This includes sending personalized offers, recommendations, and targeted promotions to customers. This strategy is well-suited to the service sector and is frequently employed as a standard business process by enterprises.

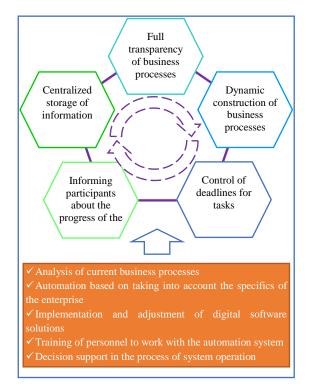
Finally, an important strategy is to ensure functional integration and communication between the enterprise's various digital systems and platforms in its operational activities. This integration facilitates smooth data exchange between different systems, prevents data duplication, and ensures the unity of management processes. This approach enhances the efficiency of operational management for service companies, making it particularly suitable for this business environment.

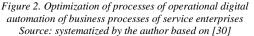
In general, effective utilization of digital technologies to enhance productivity in the service sector demands a comprehensive approach, involving the implementation of various strategies and the use of diverse tools to optimize business processes and secure competitive advantage.

At the same time, we note that the automation of business processes implemented with the help of digital tools to ensure the effectiveness of operational management in the service sector has several functional advantages. These include reducing the time and effort required to perform production tasks, increasing the efficiency of data processing and order fulfilment, and so on.

At the same time, automation allows you to reduce operational management costs, increase staff productivity, and make business processes more transparent and predictable. The sequence of digital automation involves: the identification of processes to be automated, the selection of appropriate digital tools and platforms, the development and implementation of automated solutions, and constant monitoring and optimization of these processes (Figure 2).

Thus, we can see that introducing digital innovations into the management systems of enterprises in the service sector is critically important. This is because digital technologies make it possible to optimize and automate business processes, leading to a decrease in operating costs of economic activities and a corresponding increase in the enterprise's efficiency. In addition, digital innovations contribute to improving service quality, leading to increased customer satisfaction and loyalty. This, in turn, contributes to the rise in turnover and profitability of the enterprise.





Ultimately, digital innovations allow businesses to ensure a higher level of transparency and control over their activities. With the help of digital analytical tools and extensive data management systems, business entities can conduct a deep analysis of their activities, identify problem areas, and make strategic decisions more effectively. This allows them to provide high operational flexibility and adaptability to market conditions and changes in customer needs. Therefore, introducing digital innovations into the management system of service sector enterprises not only reduces costs and increases efficiency but also improves service quality, enhances customer loyalty, and boosts market competitiveness.

The practical transformation of the operational management system of enterprises in such conditions requires not only the intensive introduction of digital tools and systems into business processes but also the implementation of a complex of organizational measures aimed at ensuring the smoothness and efficiency of the transition from traditional systems to management based on digital systems. Applying the 'Three Horizons' method of business growth from the McKinsey company is quite effective for such a transition. This approach specializes in solving tasks related to strategic business management and development. The main idea is to understand the features and differences of the three progressive horizons and determine which approach will aid in the business's future development (Table 1).

As we can see, according to this approach to management, the management system must be different at each of the horizons (from traditional planning and control in the 'understandable' horizon 1 to complex experiments and models in horizon 3). The degree of departure from the conventional approach to doing business depends solely on the boldness of the company's management. In the digitalization era, enterprises have the opportunity to quickly change their horizons to maintain market positions and survive. At the same time, in the process of operational management transformation, it is horizon 3 that should be based on system digital technologies and tools. This stimulates businesses to search for methods of quick management decision-making based on the search for new

opportunities, creative approaches, and the application of adaptive management techniques. As practice shows, the most tremendous success is achieved by enterprises that can quickly transition to the 2nd and 3rd horizons while maintaining their market positions.

Table 1: Vector directions of business development according to the "Three Horizons" approaches

Approach	Direction	Task	Management
Horizon 1	Traditional business	Protect and multiply what we have	Traditional planning and control
Horizon 2	A growing business	Accelerate the development of precise capabilities	A strategic plan with an investment budget and several developed options for the development of a specific opportunity
Horizon 3	"Subversive" capabilities	Find fundamentally new opportunities for growth	Small-scale experiments with venture capital approaches (small investments in many projects at early stages with a large degree of freedom)

Source: [15]

Accordingly, it can be argued that in order to achieve the efficiency of operational management of enterprises in the service sector, it is essential to introduce digital technologies to automate their business processes, optimize internal procedures, and focus on the general improvement of service quality. Establishing effective communication between different departments and implementing monitoring and control systems helps identify and solve problems promptly. Constant data analysis and consideration of enterprises to changes in market conditions.

#### **5** Conclusion

Thus, we conclude that in modern conditions, when digital technologies are becoming necessary to ensure the competitiveness of economic entities, the operational management of enterprises in the service sector requires integrating innovative approaches and strategies. At the same time, digitalization opens up new opportunities for improving the quality of service, optimizing business processes, and interacting with customers of such enterprises. In particular, implementing digital tools and software solutions in business processes allows enterprises to provide personalized service, effectively manage customer relationships, and predict customer needs.

Accordingly, using digital technologies ensures enterprises' sustainable development in the service sector. Amidst the dynamic conditions of modern business, digital technologies serve as both a tool for optimizing business processes and a critical factor for the success and development of the entire business environment. To achieve effective operational management of service enterprises, it is essential to establish a transparent system of control and reporting, which will allow timely detection of potential problems and avoid their negative impact on activities. In addition, constant improvement of processes and implementation of digital software solutions ensure functional adaptability and competitiveness of economic entities. Therefore, enterprises that are ready to adapt to new realities and integrate digital innovations into their activities will have a competitive advantage and will be able to ensure their stable and sustainable development in the future.

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