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**Mechanisms for Implementing distributed responsibility in the business
process architecture of modern network-type organizations**

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Abstract. *The development of network-type organizations is accompanied by the transformation of traditional management approaches, particularly the shift from centralized to distributed responsibility within business processes. Such transformation necessitates a reconsideration of management architecture, integrating responsibility into interconnected processes, roles, and digital environments. The study's relevance stems from the need to enhance organizational flexibility, adaptability, and resilience in dynamic, uncertain environments.*

The purpose of the study is to identify mechanisms for implementing distributed responsibility in the architecture of business processes in modern network-type organizations, substantiate approaches to integrating it, and analyze its impact on the effectiveness of managerial decision-making and on interaction among process participants.

The study applies systemic and process-based approaches, structural-functional analysis, business process modeling, comparative analysis of modern



management practices, and the generalization of theoretical provisions on organizational design and decentralized management.

It has been established that implementing distributed responsibility involves decomposing business processes into autonomous yet interconnected elements with clearly defined roles and areas of responsibility. The effectiveness of such a model is ensured through the use of digital platforms, horizontal coordination mechanisms, and transparent tools for monitoring task execution. It is substantiated that integrating decentralization principles leads to faster decision-making, greater employee engagement, and reduced managerial risk.

The implementation of distributed responsibility in the architecture of business processes forms a new management paradigm focused on flexibility, adaptability, and collaborative interaction. The combination of a process-based approach with network principles of organizational activity enhances the efficiency of modern organizations and lays the groundwork for their sustainable development in the context of digital transformation.

Keywords: *network distribution, organizational design, decentralization of management, digital platforms, management mechanisms, adaptability.*

Механізми впровадження розподіленої відповідальності в архітектуру бізнес-процесів сучасних організацій мережевого типу

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Анотація. *Розвиток організацій мережевого типу супроводжується змінами традиційних підходів до управління, зокрема переходом від*



централізованих моделей до розподіленої відповідальності в межах бізнес-процесів. Така трансформація зумовлює необхідність перегляду архітектури управління, де відповідальність інтегрується у взаємопов'язані процеси, ролі та цифрові середовища. Актуальність дослідження визначається потребою підвищення гнучкості, адаптивності та стійкості організацій в умовах динамічних змін і мінливості зовнішнього середовища.

Мета дослідження полягає у визначенні механізмів впровадження розподіленої відповідальності в архітектуру бізнес-процесів сучасних організацій мережевого типу, обґрунтуванні підходів до її інтеграції та аналізі впливу на ефективність управлінських рішень і взаємодію учасників процесів.

Для вирішення завдань дослідження використано системний і процесний підходи, структурно-функціональний аналіз, метод моделювання бізнес-процесів, порівняльний аналіз сучасних управлінських практик, а також узагальнення теоретичних положень щодо організаційного дизайну та децентралізованого управління.

Встановлено, що впровадження розподіленої відповідальності передбачає декомпозицію бізнес-процесів на автономні, але взаємопов'язані елементи з чітким визначенням ролей і зон відповідальності. Виявлено, що ефективність такої моделі забезпечується через використання цифрових платформ, механізмів горизонтальної координації та прозорих інструментів контролю виконання завдань. Обґрунтовано, що інтеграція принципів децентралізації сприяє підвищенню швидкості ухвалення рішень, посиленню залученості персоналу та зниженню управлінських ризиків.

Запровадження розподіленої відповідальності в архітектуру бізнес-процесів формує нову управлінську парадигму, орієнтовану на гнучкість, адаптивність і колективну взаємодію. Поєднання процесного підходу з мережевими принципами організації діяльності забезпечує підвищення



ефективності функціонування сучасних організацій та створює передумови для їх сталого розвитку в умовах цифрової трансформації.

Ключові слова: мережева дистрибуція, організаційний дизайн, децентралізація управління, цифрові платформи, управлінські механізми, адаптивність.

Problem statement. Digital transformation, the spread of platform business models, and the development of network organizations lead to significant changes in approaches to business process management and the distribution of functions. In such conditions, traditional hierarchical models are insufficient to ensure the proper levels of flexibility, decision-making efficiency, and effective coordination in complex organizational systems. Therefore, the importance of distributed responsibility as a principle of organizing management in the digital economy is increasing.

At the same time, the lack of a holistic scientific and methodological basis for integrating distributed responsibility into the architecture of business processes leads to fragmented management decisions, duplication of functions and, as a result, decreased efficiency in the functioning of business processes and, by extension, in the activities of organizations in general. Despite significant research in the field of process management and digital transformation, the issues of a comprehensive combination of delegation of authority, horizontal coordination and digital tools for interaction and control remain insufficiently studied.

The relevance of the study is determined by the need to develop scientifically based principles for implementing distributed responsibility in the architecture of business processes of modern organizations, thereby ensuring increased flexibility, adaptability and effectiveness in a dynamic and uncertain environment.

Analysis of recent research and publications. Issues of digital transformation, process management, business systems architecture and distribution



of management functions are considered in modern scientific works of domestic and foreign authors.

I. Kutova [1] investigates the issues of developing management competencies and organizational efficiency in the digital economy, focusing on the role of the human factor in increasing the productivity of management systems. V. Olkhovsky [2] analyzes the adaptation of production systems to resource shortages, allowing for management as an adaptive process in complex conditions.

D. Kyiashko [3] reveals the development of hybrid testing models and intelligent decision support systems, emphasizing the importance of automated tools in the digital environment. I. Hunkoi [4] examines the evolution of software testing approaches and the modern trends shaping the IT industry, identifying changes in the structure of technological processes.

S. Filina [5] considers process management as a tool for increasing the efficiency of enterprise functioning, focusing on the role of process organization of activity. The theoretical foundations of network organizational structures are highlighted by V. Khaustova and N. Trushkina [6], who define them as a form of coordination of economic interaction.

M. Sikalo [7] analyzes the issues of digital transformation in public administration and organizational systems, emphasizing the importance of digital technologies in the formation of new management models. The methodological components of building distributed systems in project management are studied by O. Zadorozhnyi, Y. Boyko, and A. Fesan [8], who define the structural mechanisms of management decentralization.

The development of service-oriented software architectures is described by P. Andon, S. Subotin, P. Perkonos, and Y. Tverdokhlib [9], focusing on integrating service models into modern digital environments. The architecture of business structures and its role in the reengineering of business processes are studied by



O. Vagonova et al. [10], which enables the determination of the organizational foundations of management transformation.

The formation of project portfolios in IT companies is analyzed by Y. Boiko, Y. Diachenko, T. Shandra, and V. Yakovenko [11], who emphasize the importance of coordinating project activities in complex organizational systems. Digital transformation, as a multidisciplinary phenomenon, is studied by P. C. Verhoef and co-authors [12], who examine its impact on changing business models.

S. Raisch and S. Krakowski [13] examine the interaction between automation and management functions, focusing on the transformation of management's role in the context of the development of artificial intelligence. K. S. R. Warner and M. Wäger [14] analyze the development of dynamic management capabilities during digital change and emphasize the importance of strategic renewal within organizations.

The issues of harmonization of business and IT strategies are investigated by M. Dairo, J. Adekola, C. Apostolopoulos, and G. Tsaramirsis [15], determining the importance of integrating technological and management solutions in modern organizations.

The generalization of scientific works indicates increased attention to the digital transformation of organizations, the development of process management and the formation of decentralized models of activity coordination.

The identification of previously unresolved parts of the general problem. Despite significant research in the fields of process management, organizational design and digital governance, the problem of implementing distributed responsibility in the architecture of business processes in network-type organizations remains underdeveloped. First of all, there is no holistic conceptual model of integrating distributed responsibility that combines organizational, managerial and technological mechanisms within a single process system. The issues of formalizing the distribution of responsibility across multi-level processes, coordinating



horizontal and vertical responsibilities, and preventing the duplication of functions and conflicts of authority remain insufficiently researched.

Methodological approaches to assessing the effectiveness of implementing distributed responsibility require further development, in particular, taking into account indicators of coordination, decision-making speed, costs and risks. Therefore, systematic mechanisms for integrating distributed responsibility into the process architecture of network organizations require scientific substantiation, which determines the potential contribution of this study.

Formulation of the article objectives (statement of the task). The purpose of the article is to determine the mechanisms for implementing distributed responsibility into the architecture of business processes of modern network-type organizations and to substantiate its impact on increasing management efficiency in the conditions of digital transformation.

To achieve the set goal, the following tasks have been defined:

- analyze the transformation of business process management in the conditions of the development of network organizations and the digital economy;
- investigate the essence and role of distributed responsibility in the organizational management system;
- determine the features of integrating distributed responsibility into the architecture of business processes;
- substantiate the mechanisms of coordination, delegation of authority and control in the conditions of decentralized management;
- formulate practical recommendations for improving the efficiency of organizations based on the implementation of distributed responsibility.

Presentation of the main research material. Transformational processes in business process management, caused by the development of the digital economy and the spread of network organizational structures, are characterized by the transition from rigidly hierarchical models to flexible, interconnected interaction



systems. The growing role of digital platforms, automated coordination systems and distributed information environments changes the logic of organizing management activities, shifting the emphasis from vertical control to horizontal interaction of business process participants.

The functioning of modern organizations is based on the multi-level integration of processes, in which the coherence of actions across various structural units becomes key. The strengthening of interdependence between elements of the organizational system creates a need for improved coordination mechanisms that can ensure synchronization of task performance without excessive centralization of management decisions [1, p. 1199].

Under these conditions, business process management becomes process-oriented, in which performance is determined not only by the efficiency of individual functions but also by the quality of their interaction within a single value chain [2]. The expansion of the use of digital technologies ensures transparency of operational flows, increases the speed of information exchange and creates conditions for rapid response to changes in the external environment.

Modern organizational systems increasingly depend on self-organizing mechanisms that distribute functional roles and responsibilities among process participants. Under such conditions, the management architecture becomes a dynamic system of interaction, in which coordination is ensured through digital platforms, interaction regulations and agreed procedures for performing tasks [3, p. 1782].

The transition to network management models is accompanied by a decrease in the role of centralized control and an increase in the importance of adaptive regulatory mechanisms [4, p. 29], which allow organizations to respond more quickly to changes in the market, technologies and the behavior of participants in the business environment.



Distributed responsibility in the organizational management system is considered a principle of organizing interaction, in which functions and management decisions are assigned to different participants in business processes in accordance with their roles, competencies and level of involvement. As a result, a multi-level model of task performance is formed, within which there is no single dominant decision-making center.

The content of the phenomenon of collective responsibility is determined by the structured distribution of responsibilities among process participants, ensuring consistent implementation of operations. The combination of the autonomy of individual links with the coordination of their interactions allows for maintaining the integrity of the management system and preventing duplication of operational actions.

The change in roles and responsibilities among participants is reflected in the formation of a stable system of organizational interaction capable of functioning under conditions of high complexity and dynamic changes in the external environment [6, p. 15]. With this approach, it is possible to achieve greater transparency in process execution, optimize load distribution, and improve the quality of management decisions by involving a wider range of participants in their implementation.

The practical application of the principles of shared responsibility involves implementing delegation mechanisms, interaction protocols and digital coordination tools that ensure the coordinated execution of business processes. The result is an increase in the adaptability of the organizational structure, a reduction in time costs for management operations, and an increase in the stability of functioning in conditions of uncertainty.

Within IT companies operating under the project management model, distributed responsibility is implemented through the structuring of the team according to functional roles: the development of a software product is carried out



with the involvement of analysts, developers, testers and product managers, where each participant is responsible for a separate stage of value creation [7, p. 162]. Coordination of actions occurs through digital task management systems, which record requirements, deadlines and verification results. Decisions on implementing functionality are made collectively within the framework of interfunctional interaction, reducing dependence on a single management center and accelerating the product's adaptation to market changes.

In logistics companies, distributed responsibility manifests itself through the coordination of supply chains among different participants in the process: warehouse departments, transport operators and route planning services. Each element of the system performs a certain part of the operational cycle and is responsible for the quality and timeliness of its own segment of work [8, p. 80]. Coordination is carried out through integrated digital platforms that enable continuous exchange of information on the status of goods, resources and delivery times, thereby increasing planning accuracy and reducing the risk of supply disruptions. Table 1 presents the components of integrating distributed responsibility into the architecture of business processes, which systematize the key elements of organizational interaction, mechanisms for securing functions and examples of their practical application in management activities.

Table 1

Components of the integration of distributed responsibility into the architecture of business processes of network companies

Structural element of the business process	Content of organizational implementation	Mechanism for assigning functions and areas of responsibility	Practical implementation in management processes
Decomposition of business processes	Division of end-to-end processes into interconnected operational stages with determination of the logic of their sequence	Assignment of responsibility for the implementation of individual stages to the relevant performers	Development of a software product with the separation of the analytical stage, programming and testing



Structural element of the business process	Content of organizational implementation	Mechanism for assigning functions and areas of responsibility	Practical implementation in management processes
Role structure of participants	Formation of a system of functional roles within the process environment of the organization	Determination and fixation of zones of influence in accordance with competencies and tasks	Project team, in which analysts are responsible for requirements, developers for implementation and testers for verification
Coordination of interaction	Organization of coordinated execution of tasks between functional units	Distribution of joint responsibility for achieving the final result of the process	Interaction of logistics, supply and warehousing departments in the performance of supply operations
Digital integration of processes	Using information systems for business process management and data exchange	Fixing responsibility through digital task control and management platforms	Using Jira, SAP and Asana systems to monitor task performance and statuses
Process performance control	Monitoring the performance of operations and evaluating the achieved results	Assigning responsibility for checking the quality and timeliness of execution	Automated reporting modules in ERP and CRM systems to control the execution of processes
Structural element of a business process	Content of organizational implementation	Mechanism for assigning functions and areas of responsibility	Practical implementation in management processes

Source: author's own development

The data in Table 1 show the formation of an integrated organizational model in which the structural elements of business processes, the distribution of functional responsibilities, coordination mechanisms and digital management tools are interconnected into a single system. The combination of these components ensures coordinated execution of operations, increases the accuracy of the distribution of responsibility, and reduces the risk of duplicating management functions. The identified configuration enhances transparency in processes and the organizational structure of network companies' ability to adapt in a changing environment.



Coordination mechanisms in decentralized management serve as systems for coordinating interactions among participants in business processes without concentrating management decisions at a single level. The basis is horizontal interaction, within which synchronization of actions is ensured through the regulations for the execution of operations, information exchange standards and common decision-making rules. Digital platforms play a significant role, ensuring continuous communication, transparency of processes and prompt response to deviations from planned parameters.

Delegation of authority in a decentralized management model involves transferring decision-making rights to the level of direct executors while simultaneously establishing responsibility for the result. Such a distribution helps increase the efficiency of responding to changes in the internal and external environment and reduces the burden on higher management levels. The effectiveness of delegation depends on a clear definition of the boundaries of authority, transparency of tasks and consistency of roles within the framework of process interaction.

Control in decentralized organizational structures is transformed from strict administrative supervision to a system of monitoring results and process indicators. The main tools are digital task tracking systems, automated reporting modules and performance indicators that allow assessing the status of business processes in real time. Such an organization of control provides a balance between the autonomy of process participants and the overall manageability of the network's organizational system (table 2).

The data in Table 2 reflect the structure of the digital toolkit, which provides continuous monitoring of business processes, prompt response to changes in indicators and support for management decisions in real time. The digital toolkit for decentralized management forms an interconnected system for monitoring, analyzing and evaluating the implementation of business processes. Task tracking



systems ensure the recording of all work stages in a single information environment, enabling real-time control of operational status. For example, using Jira in project teams allows tracking tasks from initial setup to final closure, including assigning responsible parties and deadlines.

Table 2

Tools for coordination, control and evaluation of business processes in decentralized management

Group of tools	Functional purpose	Management effect	Application example
Task tracking systems	Recording and monitoring of operations in a process environment	Increasing transparency of work performance and timely detection of deviations	Jira, Trello for monitoring project implementation stages
Automated reporting modules	Formation of structured data on the status of business processes	Reducing the time for preparing management information and increasing the accuracy of analysis	ERP systems with the function of automatic reporting
Performance indicators	Measuring the efficiency of process execution and achieving target indicators	Performance assessment and support for making management decisions	KPI, OKR in performance evaluation systems

Source: author's own development

Automated reporting modules generate analytical information without manual data processing, reducing the likelihood of errors and speeding up the preparation of management decisions. In practical terms, ERP systems generate reports on costs, resource utilization and implementation of operational plans, which allows management to quickly assess the effectiveness of the divisions.

Performance indicators are used to quantitatively measure the achievement of planned results and compare actual indicators with target values. In management practice, the use of KPIs and OKRs enables assessing team productivity, the implementation of strategic goals, and the timeliness of project delivery. For example, in service companies, indicators of customer request processing time and customer satisfaction level are used as basic criteria for process efficiency.



An additional dimension is gained by coordinating performance indicators with the distribution of responsibility among participants in business processes, as the proper alignment of KPIs and OKRs with specific roles increases transparency in assessment and reduces the risk of subjectivity in management decisions. In the practical activities of manufacturing companies, for example, indicators of compliance with order fulfillment deadlines are assigned to the planning and dispatching departments, while the level of product defects is directly under the responsibility of production lines [11, p. 272].

Despite certain developments in implementing the principles of distributed responsibility in network companies' management processes, further improvement is required in integrating performance assessment systems with digital business process management platforms to enable continuous monitoring of key activity parameters and the automated generation of management analytics. Thus, in particular, in logistics operations, the timeliness of cargo delivery and routing accuracy are tracked in real time, enabling prompt process adjustments without interfering with the general management hierarchy.

The formation of an effective management model based on distributed responsibility requires comprehensive implementation of organizational and digital changes to increase the coherence of business processes. It is advisable to introduce clear process regulations with the definition of roles, zones of influence and decision-making levels, which allow minimizing the duplication of functions and reducing management delays. An important element is the introduction of matrix or hybrid management structures, which combine functional and process logic of organizing activities.

Increasing the efficiency of network organizations can also be achieved through the development of a digital infrastructure for managing business processes, which ensures transparency of task performance and operational access to management information. It is advisable to introduce unified activity coordination



platforms that integrate performance indicator monitoring systems, automated reporting and communication tools among process participants. An additional effect is the development of a management analytics system focused on supporting real-time decision-making and the timely adjustment of business processes in response to changes in the external environment.

Conclusions. The research conducted allowed for the summary of the transformational changes in business process management associated with the distribution of management functions within complex organizational structures. It was established that the complexity of interactions among participants in the process environment and the growing role of digital technologies necessitate a rethinking of the traditional centralized management model in favor of more flexible organizational solutions.

The content and functional significance of distributed responsibility as a management mechanism that ensures the consolidation of roles, increased consistency of actions and the optimization of interaction between the structural elements of a network organization are revealed. It was determined that implementing the specified mechanism contributes to reducing management delays, increasing process transparency and enhancing the adaptability of the organizational system.

The features of integrating distributed responsibility into the architecture of business processes, which comprise a combination of process decomposition, role-based distribution of functions, and digital coordination tools, are systematized. The importance of mechanisms for delegating authority and controlling results in ensuring the balanced functioning of decentralized management structures is substantiated.

It is established that the practical effectiveness of the proposed solutions is achieved through the use of digital monitoring systems, performance indicators and



integrated process management platforms in network companies, which increase the accuracy of assessing their activities and the efficiency of decision-making.

The issues of in-depth integration of distributed responsibility with corporate culture, the development of management models for hybrid organizational structures, and the improvement of digital coordination tools in the context of the increasing complexity of the business environment require further study.

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