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**Avatar-oriented management of organizations as a new direction of
management**

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Abstract. The study is motivated by the transformation of management systems under the influence of digitalization, the development of artificial intelligence, and the spread of platform-based organizational models, which necessitates the formation of new management approaches capable of ensuring effective coordination, data processing, and decision-making in complex digital environments. The growing role of digital representations of subjects and processes actualizes the need for scientific substantiation of avatar-oriented management as an independent direction of management.

The purpose of the article is to theoretically substantiate avatar-oriented management of organizations as a new direction of management and to determine its impact on improving the efficiency of management processes in a digital environment.



The research methods are based on the use of system analysis, generalization and systematization of scientific approaches, as well as logical-analytical methods for studying the functioning of avatar-based models in management systems.

As a result of the study, the essence and conceptual foundations of avatar-oriented management have been explored, the functional roles of avatars in ensuring coordination, control, and communication have been identified, and approaches to their integration into organizational structures and digital platforms have been generalized. It has been revealed that the use of avatar representations contributes to increased transparency of activities, reduction of time lags in decision-making, and the transition to proactive management. The main implementation problems have been identified, including methodological uncertainty, data quality issues, integration limitations, as well as organizational and security challenges.

It has been proven that the effective application of avatar-oriented approaches requires standardization of digital models, ensuring consistency of information flows, integration with corporate systems, and the development of analytical decision-support tools.

The conclusions indicate that avatar-oriented management forms a new management paradigm that enhances adaptability, coordination, and overall organizational performance in digital environments. Further research should focus on the development of quantitative models for evaluating effectiveness, integration with artificial intelligence technologies, and the study of security and ethical aspects of digital representations.

Keywords: digital avatars, management processes, digital environment, system integration, decision-making.



**Аватар-орієнтоване управління організаціями як новий напрям
менеджменту**

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Анотація. Актуальність дослідження зумовлена трансформацією управлінських систем під впливом цифровізації, розвитку штучного інтелекту та поширення платформених моделей організації діяльності, що актуалізує потребу у формуванні нових підходів до управління, здатних забезпечити ефективну координацію, обробку даних і прийняття рішень у складних цифрових середовищах. Зростання ролі цифрових представлень суб'єктів і процесів визначає необхідність наукового осмислення аватар-орієнтованого управління як самостійного напрямку менеджменту.

Метою статті є теоретичне обґрунтування аватар-орієнтованого управління організаціями як нового напрямку менеджменту та визначення його впливу на підвищення ефективності управлінських процесів у цифровому середовищі.

Методи дослідження ґрунтуються на використанні системного аналізу, узагальнення та систематизації наукових підходів, а також логіко-аналітичних методів для дослідження функціонування аватарних моделей у системі управління.

У результаті дослідження розкрито сутність і концептуальні засади аватар-орієнтованого управління, визначено функціональні ролі аватарів у забезпеченні координації, контролю та комунікації, а також узагальнено підходи до їх інтеграції у організаційні структури та цифрові платформи.



Виявлено, що використання аватарних представлень сприяє підвищенню прозорості діяльності, скороченню часових лагів у прийнятті рішень та переходу до проактивного управління. Ідентифіковано основні проблеми впровадження, зокрема методологічну невизначеність, складність забезпечення якості даних, інтеграційні обмеження, а також організаційні та безпекові виклики. Доведено, що ефективне застосування аватар-орієнтованих підходів потребує стандартизації цифрових моделей, забезпечення узгодженості інформаційних потоків, інтеграції з корпоративними системами та розвитку аналітичних інструментів підтримки прийняття рішень.

Висновки полягають у тому, що аватар-орієнтоване управління формує нову парадигму менеджменту, яка забезпечує підвищення адаптивності, узгодженості та результативності функціонування організацій у цифровому середовищі. Перспективи подальших досліджень пов'язані з розробленням кількісних моделей оцінювання ефективності, інтеграцією з технологіями штучного інтелекту та дослідженням безпекових і етичних аспектів використання цифрових представлень.

Ключові слова: цифрові аватари, управлінські процеси, цифрове середовище, інтеграція систем, прийняття рішень.

Problem statement. The contemporary transformation of organizations under the influence of digitalization, the advancement of artificial intelligence, and the virtualization of interactions necessitates a revision of traditional management approaches, which have predominantly been oriented toward physical structures and linear communication models. Under these conditions, a new dimension of the organizational environment is emerging, in which a significant share of managerial processes is carried out through digital representations of actors – avatars, which function as an interface between individuals, information systems, and managerial decision-making. At the same time, the absence of a comprehensive scientific substantiation of avatar-oriented management as a distinct field of management



complicates the integration of such approaches into practice, reduces the effectiveness of coordination in digital environments, and creates risks of fragmentation of managerial functions.

The relevance of the problem is reinforced by the growing role of distributed teams, cyber-physical systems, and platform ecosystems, where avatars can perform not only representative but also operational, analytical, and communicative functions. This necessitates the study of their impact on decision-making, the distribution of responsibility, and the formation of organizational behavior. Unresolved issues include the standardization of such digital representations, ensuring their reliability and alignment with real managerial processes, as well as the assessment of the economic and organizational effectiveness of their use. In this regard, the scientific conceptualization of avatar-oriented management is essential for the formation of new methodological foundations of management and the development of practical tools for improving organizational performance in the digital economy.

Analysis of recent research and publications. A review of the selected works indicates that avatar-oriented management of organizations is emerging as an interdisciplinary field of management at the intersection of digital transformation, communication management, trust management, employee behavior, marketing interaction, and security. O. V. Kostenko conceptualizes electronic jurisdiction, digital personality, digital avatar, and artificial intelligence as new institutional and legal-technological components of the digital environment, forming a theoretical basis for rethinking subjectivity in organizational management [1]. N. Ablyazova substantiates the importance of personnel security as a component of enterprise management systems, which is essential for avatar-oriented models in terms of access control, authenticity of digital representatives, and minimization of behavioral and informational risks [2]. K. A. Awan and co-authors develop a blockchain-oriented model of trust management between avatars and virtual organizations in the metaverse, demonstrating that verification of interactions,



transparency of transactions, and protection of digital identity become critical [3]. P. Maśloch and M. Orłowska show that an avatar can act as a tool for supporting marketing and strategic processes in public administration, thereby expanding its functional purpose [4].

Further development of the topic is associated with the study of avatars as a means of managerial communication and social identification. C. I. Teng and co-authors demonstrate that avatar-mediated communication influences the formation of social identification among participants, which is significant for team cohesion and role alignment [5]. J. Peña and co-authors establish that the configuration of business avatar characteristics alters the perception of leadership, the level of empowerment, and behavioral responses, thereby expanding the possibilities of remote management [6]. K. Watanabe and B. Q. Ho investigate avatar-mediated service interactions, emphasizing their impact on trust and the quality of interaction between organizations and stakeholders [7].

A separate line of research concerns the applied use of avatars in internal managerial processes. W. Ng and co-authors substantiate the effectiveness of avatars in personnel training, demonstrating their role as a tool for knowledge management [8]. F. Hao and co-authors show that avatar-oriented learning contributes to the development of pro-environmental behavior and employee creativity, confirming their regulatory function within organizations [9].

A substantial body of research is devoted to the marketing dimension, which within this topic has a broader managerial significance. P. Maśloch substantiates the use of avatars in the development of marketing strategies as a tool for personalizing organizational influence [10]. M. S. Rahman and co-authors generalize approaches to avatar-based marketing, forming a value-oriented model of interaction with consumers [11]. Y. Qu and co-authors systematize the evolution of avatars from humanoid forms to virtual humans, emphasizing their increasing impact on user experience [12]. S. Zhang and co-authors demonstrate that different types of interaction with avatars influence behavioral intentions, particularly purchase



decisions [13]. A. Kusumawati and co-authors conduct a bibliometric analysis of avatar marketing development, confirming the rapid growth of scientific interest in this field [14]. A. Anujan and co-authors link the use of branded avatars with the development of digital entrepreneurship, enhancement of brand experience, and the formation of loyal communities [15]. From the perspective of the digital economy and financial system transformation, R. Sharafan and co-authors demonstrate that tokenization of real sector assets acts as a driver of structural changes in global capital markets, reinforcing the role of digital representations of objects and processes and creating preconditions for the development of avatar-based management models [16]. D. Lyushenko and co-authors substantiate the possibilities of integrating high-frequency and behavioral data into financial forecasting processes, which correlates with the analytical function of avatars as tools for processing large-scale data and supporting real-time managerial decision-making [17].

Identification of previously unresolved parts of the general problem. Despite the intensification of research in the field of digital management, there is no comprehensive theoretical substantiation of avatar-oriented management as a distinct area of management, and its essence and functional characteristics within managerial processes remain insufficiently disclosed. The fragmentation of scientific approaches and the predominance of a technological focus lead to the absence of a coherent understanding of the role of avatars in the formation of effective mechanisms of coordination, communication, and decision-making.

Unresolved issues also include the integration of avatar-oriented solutions into organizational structures, ensuring data quality and consistency, and assessing their actual impact on organizational performance. These aspects are of fundamental importance for practical implementation, which determines the need for their in-depth study and the formation of a systematic scientific approach to the development of avatar-oriented management.



Formulation of the objectives of the article. The purpose of the article is to substantiate the theoretical foundations of avatar-oriented management of organizations as a new field of management and to determine its role in improving the efficiency of managerial processes in a digital environment.

Objectives of the article:

1. To reveal the essence of avatar-oriented management and to define the functional roles of avatars.
2. To generalize approaches to the integration of avatar-oriented solutions into organizational and digital systems.
3. To identify implementation challenges and substantiate ways to improve their effectiveness.

Main material. The conditions of digital transformation of organizations determine the transition to managerial models in which digital representations of actors and processes play a key role. In this context, avatar-oriented management is considered as an approach based on the use of digital avatars – integrated information profiles that reflect the state, behavior, and functional characteristics of organizational elements and provide a new level of interaction, control, and decision-making (table 1).

Table 1

Conceptual foundations of avatar-oriented management of organizations

Component	Content	Managerial significance
Digital avatar	Virtual representation of a subject or process with integrated data	Ensures identification, monitoring, and interaction in the digital environment
Information integration	Integration of data from multiple sources into a unified digital profile	Enhances the validity of managerial decision-making
Interactive interaction	Use of avatars as an interface for communication between participants	Optimizes coordination and reduces time costs
Adaptability	Ability of avatars to adjust behavioral parameters based on data	Supports managerial flexibility under conditions of uncertainty



Component	Content	Managerial significance
Analytical function	Processing and interpretation of data in real time	Enables forecasting and risk prevention
Digital identity	Formation of a unique profile of a subject within the system	Increases transparency and accountability control

Source: compiled by the author based on [1, p. 60; 3, p. 136375; 10, p. 290; 11; 12, p. 12605].

Such a structure reflects the logic of the transition from information-recording systems to integrated environments in which the avatar acts not only as a data carrier but also as an active element of management. In practical terms, this is implemented through the creation of digital employee profiles in human resource management systems, where the avatar accumulates indicators of performance, competence, workload, and behavioral patterns – this enables management to promptly reallocate resources and form project-based teams taking into account not only formal characteristics but also the actual dynamics of work. In production and logistics systems, functional avatars of processes, integrated with sensors and information flows, ensure continuous monitoring of operational parameters, allowing deviations to be detected before they transform into losses – for example, changes in order processing speed or the accumulation of delays in supply chains are reflected as behavioral changes in the corresponding avatar and automatically signal the need for managerial intervention [10, p. 290; 11].

The analytical function of avatars is manifested in their ability to aggregate large volumes of heterogeneous data and generate predictive scenarios, which is particularly important for platform-based business models and distributed teams. Under such conditions, the avatar effectively performs the role of a digital agent that reflects not only the current state but also potential development trajectories, enabling a shift from reactive to proactive management. At the same time, interactive interaction through avatar-based interfaces reduces informational barriers between management levels, as data are presented in a visualized and structured form suitable for rapid interpretation. The practical effect of this approach is reflected in reduced



decision-making time, increased accuracy, and a lower risk of errors associated with information fragmentation. At the same time, the effectiveness of avatar-oriented management is determined not only by the technological component but also by the organization's ability to ensure data consistency, maintain the relevance of digital profiles, and develop new managerial competencies related to the interpretation of digital behavioral models. This is particularly relevant for complex organizational systems, where interactions between subsystems are nonlinear and decisions require consideration of a large number of variables, which makes the avatar-oriented approach not only a tool of digitalization but also a means of enhancing systemic manageability of the organization [11].

Within the framework of avatar-oriented management, digital avatars perform not only a representative but also a functional-operational role, transforming the way managerial processes and communications are organized. Their use makes it possible to formalize interactions between actors and systems, ensure the continuity of information flows, and enhance the coherence of actions in complex organizational environments. Unlike traditional information tools, avatars are capable of simultaneously accumulating data, reflecting behavioral patterns, and acting as active participants in managerial interaction, which changes the logic of coordination, control, and decision-making (table 2).

Table 2

Functional roles of avatars in the organizational management system

Functional role	Nature of implementation	Impact on managerial processes and communications
Representative	Representation of the state of a subject or process in the digital environment	Ensures transparency and accessibility of information across all management levels
Coordinative	Alignment of actions between units through data synchronization	Reduces interaction delays and increases operational coherence
Communicative	Use of avatars as an interface for information exchange	Simplifies the transmission of complex information and reduces distortion risks



Functional role	Nature of implementation	Impact on managerial processes and communications
Control	Monitoring deviations from planned performance parameters	Increases responsiveness to managerial deviations
Prognostic	Modeling possible development scenarios	Supports proactive managerial decision-making
Adaptive	Automatic adjustment of parameters based on feedback	Ensures organizational flexibility in a changing environment

Source: compiled by the author based on [5, p. 1180; 6; 7, p. 140; 11; 13, p. 1320].

In management practice, the functional roles of avatars form an integrated mechanism of coordination, control, and decision-making in which information is not only recorded but also directly influences system behavior. The representative role enables work with dynamic digital profiles of units and processes instead of static reports – this allows for the prompt assessment of the organization's state based on key parameters without additional coordination. The coordinative function is implemented through the automatic alignment of actions between interconnected processes: changes in one segment are immediately reflected in others, which is particularly important for production and logistics systems where delays have a multiplicative effect [5, p. 1180].

The communicative dimension shifts from textual to parametric – managerial signals are transmitted through changes in avatar states, which reduces ambiguity of interpretation and accelerates interaction in distributed teams [7, p. 140]. The control role ensures continuous monitoring of deviations and rapid response, for example, in financial processes it enables timely detection of cost overruns or declining liquidity without waiting for reporting periods. The prognostic function allows assessment of the consequences of managerial decisions prior to their implementation through scenario modeling, while the adaptive function enables prompt adjustment of operational parameters in response to environmental changes.



As a result, a continuous management loop is formed in which communication, coordination, and control are integrated into a single system, reducing time lags, increasing decision accuracy, and ensuring more stable organizational performance under dynamic conditions.

The integration of avatar-oriented solutions into modern organizations occurs through the combination of structural transformations and the implementation of digital platforms that ensure coordinated interaction between data, processes, and users. Unlike the isolated use of digital tools, such solutions involve embedding avatars into the core of managerial infrastructure – from the level of individual operations to strategic management, which enables continuity of information flows and integrity of the managerial environment (table 3).

Table 3

Approaches to the integration of avatar-oriented solutions into organizational structures and digital platforms

Integration approach	Implementation mechanism	Resulting effect
Platform integration	Embedding avatars into corporate digital platforms (ERP, CRM, analytical systems)	Formation of a unified information space for management
Process-oriented integration	Assigning avatars to business processes and their stages	Increased transparency and manageability of processes
Role-based integration	Alignment of avatars with organizational roles and functions	Harmonization of responsibility and functional workload
Data-linked integration	Synchronization of avatars through shared databases and APIs	Ensuring the timeliness and consistency of information
Modular integration	Connecting avatars as separate functional modules	Flexibility of system scaling and adaptation
Ecosystem integration	Interaction of avatars between organizations within digital ecosystems	Expansion of management boundaries through partnership links

Source: compiled by the author based on [3, p. 136380; 4; 10, p. 295; 12, p. 12610; 15, p. 2975].



The described integration approaches reflect different levels of incorporating avatar-oriented solutions into the management system – from technical compatibility to organizational transformation. In practice, platform integration ensures the elimination of gaps between information systems, when data on operations, customers, and resources are no longer duplicated across different environments but are consolidated through avatar-based representations – this, in particular, makes it possible to synchronize production planning with actual demand without delays caused by report processing [4]. The process-oriented approach changes the nature of control over operational execution, since the avatar is assigned not to a structural unit but to the logic of the process, which makes it possible to view it end-to-end. In practice, this is manifested in the ability to identify not only the fact of a deviation but also the point at which it occurs – for example, in service processes it becomes evident at which exact stage a service delay emerges and whether it is related to staff overload, planning errors, or external factors. Role-based integration ensures the correspondence of digital representations to the actual organizational structure, thereby creating a basis for more accurate management of responsibility and performance. This is especially evident in project management, where an avatar makes it possible to compare the volume of tasks with the actual capabilities of performers and to promptly reconfigure the team without formal procedures [12, p. 12610]. Data-linked integration, implemented through APIs and shared repositories, supports the integrity of information, preventing situations in which managerial decisions are made on the basis of outdated or incompatible data. The modular approach creates practical prerequisites for phased implementation – an organization can integrate avatar-oriented solutions into individual functional areas while assessing their effect prior to scaling, which reduces the risks of investment in digitalization. At the same time, ecosystem integration expands the management contour beyond the enterprise, when interaction with suppliers or partners is carried out through coordinated digital profiles of processes and resources – this makes it



possible to reduce time losses in supply chains and improve the predictability of fulfilling obligations.

Thus, the integration of avatar-oriented solutions under current conditions effectively means a transition to a coordinated digital architecture of management, in which information flows, organizational structure, and processes function as interconnected elements of a unified system.

The implementation of avatar-oriented management is accompanied by a number of interrelated scientific and practical problems. First of all, the absence of an established theoretical basis complicates a clear definition of the role of avatars in the management system and their relationship with other digital tools, which leads to fragmentation of approaches [15, p. 2975]. A methodological problem remains the formalization of behavioral and qualitative characteristics of activity, which are difficult to integrate into unified analytical models.

A key limitation is the quality and consistency of data, since incomplete or unsynchronized information flows reduce the reliability of avatar-based representations and, accordingly, of managerial decisions. Integration with existing information systems of different architectures also becomes more complicated, which restrains the formation of a unified digital environment and increases implementation costs. At the same time, the problem of scalability arises, associated with maintaining the relevance of a large number of avatars in real time.

Organizational difficulties are determined by the need to transform managerial practices, increasing requirements for digital competencies, and uncertainty in the distribution of responsibility between humans and algorithms. Communication challenges are manifested in the transition to new formats of information presentation, which requires adaptation of managerial culture and at the same time creates the risk of oversimplifying complex situations [6]. Additional risks are associated with the security and ethical aspects of the use of digital representations.



The issue of performance assessment also remains problematic, since there are no universal criteria for measuring the effectiveness of such solutions, while economic feasibility largely depends on the scale and digital maturity of the organization. The set of these limitations indicates the need for comprehensive methodological and organizational support for the implementation of the avatar-oriented approach.

Enhancing the effectiveness of avatar-oriented approaches in the management system requires a coordinated combination of technological solutions, organizational changes, and methodological support. First of all, it is advisable to create a unified information environment in which avatar-based representations are integrated with key management systems, thereby ensuring data integrity and eliminating duplication of information. An important condition is the standardization of the structure of avatars and the parameters they reflect, which makes it possible to ensure their comparability, interpretability, and use across different functional subsystems.

A significant direction is the introduction of mechanisms for ensuring data quality, including validation, updating, and synchronization, since it is precisely the reliability of the information base that determines the effectiveness of managerial decisions. A phased implementation of avatar-oriented solutions using a modular approach is advisable, as this allows individual functional elements to be tested and the risks of large-scale changes to be minimized. At the same time, it is necessary to ensure the development of digital competencies of personnel, particularly skills related to the interpretation of analytical data and work with visualized models.

To increase managerial effectiveness, it is important to clearly define roles and areas of responsibility in interaction with avatar-based systems, which helps to avoid uncertainty in decision-making. It is also advisable to implement analytical tools for forecasting and decision support that make it possible to use the potential of avatars not only for recording the current state but also for modeling development



scenarios. Particular attention should be paid to ensuring information security and data protection, which is critical for trust in the system.

The effectiveness of applying avatar-oriented approaches should be assessed through a system of indicators reflecting the speed of decision-making, the level of coordination of actions, the reduction of operating costs, and the increase in organizational adaptability. Taken together, the implementation of these recommendations makes it possible to form an integrated, flexible, and data-oriented management system capable of functioning effectively in the digital economy.

Conclusions. The generalization of the research results shows that avatar-oriented management forms a new logic of management in which digital representations of subjects and processes act as active elements of coordination and decision-making. It has been established that their integration ensures greater transparency, shorter response times, and a transition to proactive management, although effectiveness is determined by the level of data consistency and the organization's ability to adapt managerial practices to the digital environment. It has been found that the key problems are concentrated in methodological uncertainty, the complexity of formalizing behavioral parameters, low data quality, difficulties of integration and scaling, as well as in the transformation of roles and responsibilities under conditions of interaction between humans and algorithms. Additional constraints include security risks and the absence of universal approaches to performance evaluation. It is substantiated that improved effectiveness is possible provided that avatar models are standardized, data quality is ensured, integration with digital platforms is achieved, and analytical tools are developed, along with the formation of the corresponding managerial competencies. Prospects for further research are associated with the development of quantitative models for performance evaluation, integration with artificial intelligence and digital twin technologies, as well as the study of security and ethical aspects and interorganizational interaction in digital ecosystems.



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