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DIGITAL TRANSFORMATION OF ORGANIZATIONAL MANAGEMENT SYSTEMS: A SEVEN-COMPONENT MODEL AND METHODOLOGY FOR ASSESSING DIGITAL MATURITY

The article proposes a scientific and methodological approach to studying the digital transformation of organizational management systems. It distinguishes automation, digitalization, and digital transformation, defining the latter as a redesign of management architecture, decision-making, organizational structure, competencies, and value creation. The study highlights the role of data-driven management, Big Data, business intelligence, artificial intelligence, digital platforms, cloud technologies, and digital twins in the transition to predictive and adaptive management. A seven-component digital management model is developed, covering digital infrastructure, data and analytics, artificial intelligence, organizational agility, human capital, sustainable development, and trust and security. The methodology supports the assessment of digital maturity, identification of technological, organizational, human-resource, environmental, and security imbalances, and monitoring of transformation performance.

Keywords: digital transformation, digital management, artificial intelligence, digital maturity, data-driven management, digital infrastructure, organizational agility, human capital, sustainable development, cybersecurity**.**

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ЦИФРОВА ТРАНСФОРМАЦІЯ СИСТЕМ УПРАВЛІННЯ ОРГАНІЗАЦІЄЮ: СЕМИКОМПОНЕНТНА МОДЕЛЬ ТА МЕТОДОЛОГІЯ ОЦІНЮВАННЯ ЦИФРОВОЇ ЗРІЛОСТІ

У статті розвинено науково-методичний підхід до дослідження цифрової трансформації систем менеджменту організацій. Обґрунтовано необхідність розмежування категорій «автоматизація», «цифровізація» та «цифрова трансформація», що дає змогу трактувати останню як фундаментальну перебудову управлінської архітектури, процесів прийняття рішень, організаційної структури, компетентнісної моделі та механізмів створення цінності. Систематизовано ключові драйвери трансформації й розкрито роль Data-driven Management, Big Data, бізнес-аналітики, штучного інтелекту, цифрових платформ, хмарних технологій і цифрових двійників у переході від ретроспективного контролю до прогнозного та адаптивного управління. Показано, що інтелектуалізація менеджменту змінює роль керівника: від адміністративного контролера до стратега, аналітика, лідера змін і координатора людино-машинної взаємодії. Запропоновано семикомпонентну модель, яка, на відміну від технологічно орієнтованих підходів, включає сталий розвиток і довіру, а також безпеку як повноцінні компоненти цифрової зрілості. Відтак, рекомендована семикомпонентна модель відображає цифровий менеджмент як цілісну соціотехнічну систему. Її компоненти – цифрова інфраструктура, дані та аналітика, штучний інтелект, організаційна гнучкість, людський

капітал, сталий розвиток, довіра та безпека – взаємозалежні. Високий рівень одного компонента не компенсує критичного відставання іншого, тому оцінювання має охоплювати як інтегральний результат, так і профіль компонентів. Запропонована методика розрахунку інтегрального індексу дозволяє віднести організацію до одного з п'яти рівнів цифрової зрілості, що формує зрозумілу логіку переходу від поодинокої автоматизації до адаптивної цифрової організації. Методика дає змогу визначати не лише загальний рівень цифрової зрілості, а й дисбаланси між технологічною, організаційною, кадровою, екологічною та безпековою складовими цифрового розвитку. Практична цінність результатів полягає у можливості їх використання для діагностики поточного стану організації, формування дорожньої карти цифрової трансформації та моніторингу її результативності.

Ключові слова: цифрова трансформація, цифровий менеджмент, штучний інтелект, цифрова зрілість, Data-driven Management, цифрова інфраструктура, організаційна гнучкість, людський капітал, сталий розвиток, кібербезпека.

Problem statement. The current stage of organizational development is characterized by the rapid diffusion of digital technologies, which are changing not only the tools used to perform managerial operations but also the underlying logic of work organization, coordination, control, and value creation. Artificial intelligence, Big Data, digital platforms, cloud services, the Internet of Things, digital twins, and business intelligence systems are becoming increasingly deeply integrated into managerial and production processes. Under these conditions, digital transformation ceases to be a separate area of technological modernization and becomes a fundamental driver of management-system redesign. The issue is particularly relevant for Ukrainian organizations. War-related risks, labor shortages, business relocation, the need to ensure operational continuity, growing cyber threats, and the need to integrate into the European economic area intensify demand for scalable, secure, and adaptive management solutions. In this context, digital transformation simultaneously improves efficiency, ensures organizational resilience, and enables technological modernization.

At the same time, digitalization cannot be assessed solely by the number of software products acquired or the level of automation of individual operations. The presence of ERP, CRM, BI, or standalone artificial intelligence tools does not, in itself, indicate digital maturity if systems are not integrated, data are not used in decision-making, employees lack the required competencies, and security, ethics, and sustainability remain outside the management framework. This creates a need for an integrated model that combines the technological, organizational, human-resource, resource-related, and regulatory-security dimensions of digital management, as well as a methodology for their quantitative assessment.

Analysis of recent research and publications. Contemporary research on the digitalization of management is developing along several interrelated lines: the conceptualization of digital transformation; the implementation of digital technologies in business processes; the use of artificial intelligence and predictive analytics; the development of digital platforms and ecosystems; changes in organizational structures; the formation of digital competencies; and the assurance of cybersecurity and the ethical use of algorithmic systems.

In academic discourse, digitalization is increasingly interpreted as a process that extends beyond converting information into electronic form. In particular, N. Buniak [1] emphasizes that digitalization leads to a reconsideration of business processes and organizational models and intensifies the transformation of decision-making systems. The studies by A. Sundstrom [2] and K. Abbas [3] on modern practices, emerging forms, and infrastructures for the use of digital tools in management control and accounting are important for the development of this field. International scholars C. Collins, D. Dennehy, K. Conboy, and P. Mikalef [4] analyze digital transformation through the lens of organizational interactions with customers and partners, as well as the creation of new value. A substantial body of research is devoted to the impact of artificial intelligence on productivity, human capital, innovation, and structural modernization. In particular, T. Zavolichna and G. Pochenchuk [5] consider AI not only as an automation tool but also as a technology capable of changing the structure of labor demand, expanding forecasting capabilities, and shaping new models of production and management organization.

Research on digital transformation in relation to sustainable development, resource efficiency, the circular economy, and the human-centered Industry 5.0 paradigm is becoming increasingly important [6–8].

However, existing approaches often examine technological, organizational, human-resource, environmental, and security aspects separately. Moreover, tools that operationalize an integrated understanding of digital management and translate it into a system of measurable indicators remain insufficiently developed. Despite the considerable volume of research, three interrelated issues require further elaboration. First, a systemic representation of digital management is needed that does not reduce digital maturity to technological equipment. Second, it is important to determine the place of sustainable development, ethics, trust, and cybersecurity within the architecture of digital transformation. Third, there is a lack of a transparent methodology that would enable the quantitative assessment of each component, comparison across organizations or development periods, and identification of priorities for further change.

The purpose of the article is to advance the theoretical foundations of the digital transformation of organizational management systems, substantiate a seven-component model of digital management, and develop on this basis a system of indicators and a methodology for the integral assessment of an organization's digital maturity. To achieve this purpose, methods of theoretical generalization and systematization were used to clarify the concepts of "automation," "digitalization," "digital transformation," and "digital maturity"; systems and structural-functional approaches were applied to construct the seven-component model; comparative analysis was used to identify differences between traditional and digital management architectures; decomposition was employed to operationalize the components into a set of indicators; and expert scoring and index methods were used to develop the assessment scale and the integral digital maturity index.

Presentation of the main research material. To understand the nature of contemporary changes in management concepts, it is essential to distinguish among the categories of "automation," "digitalization," and "digital transformation." A synthesis of scholarly studies [3; 5; 11] provides grounds for defining automation as the transfer of repetitive operations to technological systems, which, as a rule, does not alter the overall logic of management. Digitalization, by contrast, is a broader process involving the use of digital technologies to optimize information flows, processes, and interactions. Digital transformation denotes a qualitative change in how an organization functions, including its management architecture, distribution of authority, competency model, and value-creation mechanisms. Accordingly, the evolution of digital change can be represented as the following sequence: automation → digitalization → integration → intellectualization → management transformation. At the first two stages, technologies increase the speed and accuracy of individual operations. At the integration stage, they connect information flows and processes. Intellectualization adds forecasting, algorithmic decision support, and elements of autonomy. The final outcome is a redesign of the very logic of managerial activity. Thus, the key distinction of digital transformation is that it changes not only management tools but also coordination principles, the distribution of authority, the role of managers, and the interaction between people and digital systems. Digital transformation should therefore be viewed as a sociotechnical rather than exclusively technological process.

V. Tomakh, T. Sihaieva, and M. Martynenko [6] emphasize that the spread of digital technologies changes management architecture and the strategic reference points of management. The traditional management model largely relies on vertical hierarchy, fragmented information flows, periodic control, and a substantial share of decisions based on the manager's individual experience. The digital model is characterized by integrated data flows, real-time monitoring, automation of standard procedures, cross-functional interaction, flexible allocation of authority, the use of forecasting algorithms, and the organization's inclusion in digital ecosystems. As a result, there is a transition from managing information to managing data; from managing isolated processes to managing end-to-end digital flows; and from retrospective control to forecasting, early detection of deviations, and adaptive response. This architectural shift creates preconditions for faster decision-making but simultaneously raises requirements for data quality, system interoperability, staff competencies, and the security of the digital environment. Digital transformation is logically shaped by both external and internal drivers. External drivers include changing consumer behavior, intensified competition, technological innovation, globalization, and the development of the digital economy. Internal drivers are associated with the desire to optimize resources, reduce costs, increase productivity, support remote and hybrid work, strengthen employee interaction, and improve operational continuity. Contemporary management practice also adds a sustainability driver: the need to reduce resource intensity, manage energy consumption, minimize waste, improve supply-chain traceability, and ensure environmental responsibility. Consequently, digital transformation moves from a purely operational dimension to a strategic dimension of organizational development.

In our view, digital management increasingly depends on an organization's ability to systematically collect, integrate, cleanse, interpret, and use data. The logic of data-driven management can be represented as a continuous cycle: data → analytics → forecast → decision → monitoring → adaptation. The distinction between this approach and the traditional system lies in the transition from predominantly retrospective control to predictive and preventive management. The effectiveness of data-driven management depends not only on the volume of available information. Data quality, timeliness, completeness, consistency, traceability, clearly designated data owners, and unified Data Governance rules are critical. Without these prerequisites, even advanced BI systems may reproduce conflicting indicators, reduce trust in analytics, and complicate decision-making [13]. Digital twins represent an important extension of analytical logic, as they enable modeling of managerial and production scenarios, assessment of the consequences of alternative decisions, and improved planning accuracy. Their combination with predictive analytics and artificial-intelligence algorithms creates the conditions for scenario-based and adaptive management.

Artificial intelligence is becoming one of the key drivers of the qualitative transformation of management systems. Its applications include demand forecasting, inventory management, logistics optimization, personalization of customer interactions,

risk assessment, support for human-resource decisions, generation of managerial documents, and coordination of routine digital operations. The evolution of AI use can be represented as a transition from a standalone tool to an assistant, an agent, and a partially autonomous digital executor. The expanding responsibility of algorithmic systems does not eliminate the human role; rather, it shifts that role toward goal-setting, interpretation of results, exception control, assessment of ethical implications, and complex decision-making under uncertainty. Mature AI adoption, therefore, implies not autonomy at any cost but a purposeful combination of algorithmic efficiency and human oversight [14; 15].

The use of digital platforms, Big Data, AI, and digital twins changes organizational structure. The importance of some vertical procedures decreases, the role of cross-functional teams increases, and operational authority may be delegated directly to employees who possess up-to-date information. An intelligently distributed management structure emerges, in which decisions are made closer to the point at which a problem arises, while digital technologies provide coordination, transparency, and control. However, organizational agility does not arise automatically from the acquisition of digital systems. It requires revising regulations, roles, and areas of responsibility, developing Agile practices, creating cross-functional teams, and establishing mechanisms for rapid experimentation. Organizational capability determines whether technological potential is converted into tangible managerial outcomes. Digital transformation also changes the structure of human capital. The higher the level of automation, the greater the requirements for digital competencies, AI literacy, critical thinking, analytical abilities, creativity, the ability to work in virtual teams, change-management skills, and the responsible use of digital technologies. Technological investment must therefore be accompanied by systematic investment in training, reskilling, and the development of management culture. In a digital organization, the manager gradually evolves from a predominantly administrative controller into a strategist, analyst, change leader, coordinator of human-machine interaction, and mentor. The manager's key competence becomes the ability to create an environment in which data, algorithms, and human expertise generate synergy rather than compete with one another.

An important extension of the traditional concept of digital transformation is its resource dimension. Artificial intelligence, sensor systems, and digital analytics can contribute to more efficient management of energy, materials, inventories, and waste. Through real-time monitoring and forecasting, an organization can reduce resource losses, optimize production modes, and improve the transparency of environmental indicators. This brings digital management closer to the logic of Industry 5.0. Whereas Industry 4.0 emphasizes automation, digitalization, and system interconnectedness, Industry 5.0 strengthens the human-centered, sustainable, and resilient dimensions of technological development. In this model, digital technologies are assessed not only in terms of their contribution to productivity but also according to their impact on organizational resilience, employee well-being, resource efficiency, environmental performance, and innovation. Digital transformation thus evolves from "digitalization for efficiency" to "digitalization for sustainable and human-centered efficiency." This approach requires the inclusion of sustainable-development indicators in the digital maturity assessment system, because technological solutions that improve short-term productivity while worsening resource, social, or environmental parameters cannot be considered fully mature. Another dimension of digital management is the integration of ERP, CRM, BPM, HRM, BI, logistics systems, communication platforms, and external digital services into a unified ecosystem. It is systemic integration, rather than the accumulation of numerous isolated tools, that creates a coherent information environment and constitutes a sign of digital maturity.

In our view, the more extensively an organization uses AI, automated decisions, and digital platforms, the more important trust, transparency, ethics, and security become. Large-scale use of algorithmic systems without clear accountability rules may generate not only productivity gains but also reputational, legal, human-resource, and social risks. Digital management therefore gives rise to the managerial triangle of "technology – trust – responsibility." Under these conditions, cybersecurity should be regarded not as a narrow function of the IT department but as a component of strategic management and business continuity. It encompasses the protection of critical systems and data, access management, backup arrangements, recovery plans, staff training, incident response, and control of risks associated with digital-service providers. The principal barriers to digital transformation remain insufficient digital maturity of management, limited financial resources, shortages of digital talent, resistance to organizational change, outdated infrastructure, incompatibility of information systems, cyber threats, and legal and regulatory constraints. This list should also include a deficit of trust in algorithmic systems. The digital divide therefore exists not only at the level of access to technologies but also at the level of organizational readiness to govern them responsibly.

The synthesis of the above provisions makes it possible to propose a seven-component model of digital management in organizations. Within this model, digital maturity is interpreted not as the sum of implemented software products but as the capacity to integrate technologies, data, artificial and human intelligence, organizational mechanisms, and the principles of sustainability and responsibility into a unified management system (Fig. 1).

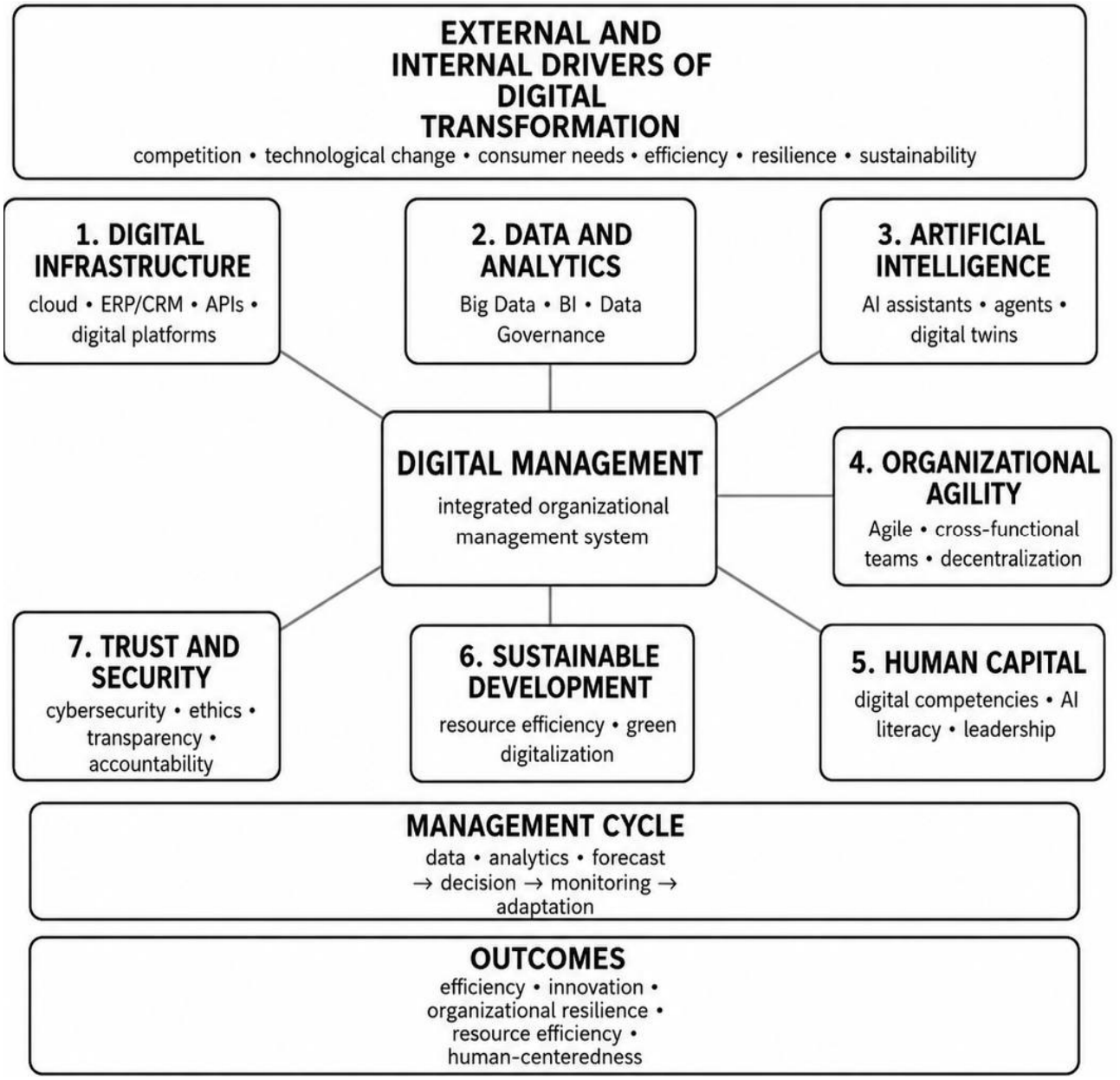

Figure 1. Seven-component model of digital management in organizations

Source: developed by the author based on the systematization of the principles of digital transformation in management

The model comprises seven interrelated components:

1. Digital infrastructure (cloud technologies, ERP, CRM, BPM, APIs, digital platforms, integration tools, and redundancy mechanisms).

2. Data and analytics (Big Data, BI, Data Governance, data quality, predictive models, and regular use of analytics in decision-making).

3. Artificial intelligence (AI assistants, AI agents, generative AI, digital twins, algorithmic support, and partial autonomy in decision-making).

4. Organizational agility (Agile approaches, cross-functional teams, decentralization, rapid experimentation, and process adaptation).

5. Human capital (digital competencies, AI literacy, leadership, continuous learning, change management, and a data-driven culture).

6. Sustainable development (resource efficiency, green digitalization, circularity, and management of energy, materials, and waste).

7. Trust and security (cybersecurity, ethical principles, algorithmic transparency, digital-risk management, and accountability).

The first two components form the technological and informational foundation of digital management. Artificial intelligence enables the intellectualization of management processes. Organizational agility and

human capital convert technological potential into practical change.

Sustainable development, trust, and security create a strategic and normative framework that directs digitalization toward long-term resilience, ethical conduct, and responsibility. Functionally, the components of the model form four interrelated blocks (Table 1).

This interpretation explains the mechanism through which digital maturity is formed: infrastructure and data establish the foundation; AI increases the intelligence of decisions; organizational agility and human capital enable the implementation of change; and sustainability, trust, and security determine the long-term acceptability and responsibility of such change. The interaction among the components is cyclical. Data generated by digital infrastructure are transformed into analytical insights and forecasts; AI supports or automates selected decisions; organizational mechanisms and staff competencies ensure implementation; outcomes are monitored through indicators of efficiency, resilience, and security; and the resulting feedback initiates a new cycle of adaptation. Digital maturity is therefore a dynamic organizational capability rather than a fixed state.

For practical application of the seven-component model, its components must be operationalized, that is, transformed into a system of observable and measurable characteristics. The proposed methodology combines documentary analysis, information-system data, quantitative KPIs, audit findings, and structured expert assessment. This combination reduces dependence on subjective judgment while making it possible to evaluate dimensions for which universal quantitative metrics have not yet been established.

Each indicator is assessed on a scale from 0 to 4 points (Table 2).

A score of 0 denotes the absence of a practice; 1 indicates isolated pilot initiatives; 2 indicates formalization in individual departments; 3 denotes integrated and managed application; and 4 represents an optimized, demonstrably effective, and adaptive level. For comparison purposes, scores are converted into normalized values ranging from 0 to 100.

The normalized value of the i-th indicator of the j-th component is determined as follows:

$$Z_{ij} = (b_{ij} / 4) \times 100, \quad (1)$$

where b_{ij} is the expert or actual score assigned to the respective indicator.

The index of the j-th component is calculated as the weighted sum of normalized indicators:

$$C_j = \Sigma(w_{ij} \times Z_{ij}), \quad (2)$$

where w_{ij} is the weight of an indicator within the component;

the sum of indicator weights within a component equals 1.

The integral digital maturity index of the organization is determined as follows:

$$IDM = \Sigma(W_j \times C_j), \ \Sigma W_j = 1, \quad (3)$$

where W_j is the weight of the j-th component.

For initial testing, equal weights should be assigned to the seven components and to the indicators within each component. Subsequently, the weights may be

Table 1

Functional interpretation of the components of the seven-component model

Functional block	Components	Role in shaping digital maturity
Technological foundation	Digital infrastructure; data and analytics	Creates a unified information environment, ensures access to digital services, and supports data quality and governance.
Management intellectualization	Artificial intelligence	Enables forecasting, decision support, and partial decision autonomy under human oversight.
Organizational capability	Organizational agility; human capital	Converts technological potential into practical change through new authority structures, teams, competencies, and leadership.
Strategic and normative framework	Sustainable development; trust and security	Directs digitalization toward resilience, resource efficiency, ethics, transparency, and responsibility.

Source: developed by the author

Table 2

Scale for assessing an individual digital maturity indicator

Score	Level	Scoring criterion
0	Absent	The practice or tool is not applied; there is no evidence of systematic activity.
1	Initial / pilot	There are isolated initiatives or local pilots; the approach depends on individual employees and is not standardized.
2	Formalized	The practice is documented and implemented in selected departments; basic rules and responsibilities exist, but integration is incomplete.
3	Integrated / managed	The practice covers most relevant processes, is integrated into management, and is regularly measured and controlled.
4	Optimized / adaptive	The practice is end-to-end, automated or intellectualized, continuously improved on the basis of data, and generates a demonstrated effect.

Source: developed by the author

adjusted to reflect the organization's industry, scale, risk profile, and strategic priorities.

The indicator system covers all seven components of the model and may include approximately 28 indicators. It is built on the principle of balance: alongside technological characteristics, the assessment covers data, the managerial use of AI, organizational agility, staff competencies, resource effects, ethics, and cyber resilience. For each indicator, a method of operationalization, possible sources of evidence, and the desired direction of change are specified. The proposed list should not be regarded as an immutable universal standard. Its advantage lies in providing a structured foundation that can be adapted to sector-specific conditions. For manufacturing organizations, for example, it is advisable to elaborate indicators relating to digital twins, IoT, energy efficiency, and downtime; for financial institutions, algorithmic risks, data protection, and regulatory compliance; and for educational institutions, digital interaction, educational-data analytics, and staff competencies. Assessment should be evidence-based. Each score must be supported by system data, policies, logs, reports, audit findings, process descriptions, or measurable KPIs. This approach ensures repeatability of the assessment and makes it possible to track change over time. The integral index allows an organization to be assigned to one of five levels of digital maturity (Table 3). The boundaries between levels are diagnostic and may be refined through empirical testing. Nevertheless, they provide a clear logic for the transition from isolated automation to an adaptive digital organization in which technology, data, people, sustainability, and security are integrated into strategic management.

It should be noted that reliance on the integral indicator alone may conceal critical imbalances. For example, an organization may have advanced infrastructure and analytics but a low level of competencies, security, or ethical AI governance. The seven-component profile should therefore be a mandatory element of diagnosis. It reveals bottlenecks and makes it possible to determine the sequence of managerial interventions.

To ensure comparability and practical value of the results, the following principles should be observed:

– conduct a comprehensive assessment at least once a year and, for organizations undergoing active transformation, once every six months;

– establish a cross-functional expert group involving management, IT, HR, finance, security, operations, and the sustainability function;

– substantiate each score with information-system data, regulations, policies, logs, reports, audit findings, or measurable KPIs;

– analyze not only the integral index but also the profile of the seven components and the internal structure of each component;

– use the assessment results to develop a digital transformation roadmap, prioritize investments, and monitor progress;

– record separately the managerial, economic, social, and environmental effects of digital initiatives;

– review weights and threshold values after pilot assessment and the accumulation of empirical data.

The assessment procedure may consist of five stages. At the first stage, the object of assessment is defined and a list of key processes is compiled. At the second stage, evidence is collected for each indicator. At the third stage, the expert group assigns scores and records the rationale. At the fourth stage, component and integral indices are calculated and a maturity profile is constructed. At the fifth stage, target values, priority projects, and responsible persons are identified. The managerial value of the methodology lies in shifting the discussion of digital transformation from general declarations to measurable characteristics. The organization is thereby able to compare technological investment with the actual use of data, decision-making speed, competency development, resilience, security, and sustainable-development outcomes.

The scientific novelty of the study lies in advancing a conceptual approach to the digital transformation of management systems as a multidimensional sociotechnical process that integrates technological, information-analytical, intellectual, organizational,

Table 3

Levels of organizational digital maturity

IDM, points	Maturity level	Substantive description
0–20	I. Initial	Digital solutions are isolated, non-integrated, and primarily aimed at automating individual operations. Management depends on manual procedures and personal experience.
>20–40	II. Fragmented	Local digital initiatives and basic systems exist, but data, processes, and responsibilities remain disconnected. Effects are not measured systematically.
>40–60	III. Integrated	Core digital systems and data are partially integrated, practices are formalized, and BI, cross-functional work, and systematic staff training are developing.
>60–80	IV. Data-driven and intelligent	Decisions are predominantly data-driven; predictive analytics and AI are applied; digital practices are integrated into management; and effects and risks are regularly monitored.
>80–100	V. Transformational	The organization operates as an adaptive digital ecosystem in which technologies, data, AI, people, sustainability, and responsibility are integrated into an end-to-end system of continuous improvement and value creation.

Source: developed by the author

human-resource, resource-related, and security-ethical dimensions. The content of organizational digital maturity is clarified as the dynamic capacity to integrate digital infrastructure, data, artificial intelligence, organizational agility, human capital, sustainability, trust, and security into a unified system for making and implementing managerial decisions. A seven-component model of digital management is proposed which, unlike technology-oriented approaches, includes sustainable development and trust and security as full-fledged components of digital maturity. A system of indicators, a five-level assessment scale, and an algorithm for calculating component and integral indices are developed.

The practical significance of the proposed approach lies in its applicability by organizational leaders, consultants, analysts, and governing bodies to diagnose the current state of digital management, identify imbalances, develop transformation roadmaps, and assess progress. The methodology may be used for internal audit, comparison of business units, justification of investment priorities, and incorporation of digital maturity into the strategic control system.

The proposed indicator system is conceptual and methodological in nature and requires further empirical testing on a sample of organizations from different industries and of different sizes. Equal component weights constitute an initial assumption; in applied research, they may be refined using expert methods, the analytic hierarchy process, or statistical modeling. Sector-specific threshold values for quantitative indicators and verification of the relationship between the integral index and indicators of efficiency, innovation, resilience, and sustainable development require separate investigation.

Conclusions. The digital transformation of organizational management systems is a process of fundamental change in management architecture, as a result of which structures, functions, processes, competencies, and decision-making mechanisms are transformed. Its development proceeds from the automation of individual operations, through the integration of digital systems, toward intellectualization and the formation of an adaptive model of organizational interaction. The defining characteristics of contemporary digital management are data-driven management, predictive analytics, artificial intelligence, digital twins, platform solutions, agile structures, cross-functional interaction, and the integration of digital ecosystems. At the same time, the effectiveness of transformation depends on human capital, change management, trust in digital systems, cybersecurity, and ethical responsibility. Digital transformation extends beyond productivity objectives and becomes a factor of resource efficiency, environmentalization, organizational resilience, and transition to the principles of Industry 5.0. For Ukraine, it should simultaneously be regarded as an instrument of efficiency, operational continuity, and economic modernization.

The proposed seven-component model presents digital management as an integrated sociotechnical system. Its components – digital infrastructure, data and analytics, artificial intelligence, organizational agility, human capital, sustainable development, and trust and security – are interdependent. A high level of one component cannot compensate for a critical lag in another; therefore, assessment must encompass both the integral result and the component profile. The developed indicator system, the 0–4 assessment scale, and the index-calculation algorithm provide a foundation for practical diagnosis of digital maturity. Future research should focus on empirical validation of the model, the development of sectoral benchmarks, refinement of weights, and quantitative assessment of the impact of digital maturity on organizational efficiency, innovation, resilience, and sustainable development.

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