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DIGITAL PLATFORMS AND BUSINESS ECOSYSTEMS AS DRIVERS OF ENTERPRISE TRANSFORMATION IN THE DIGITAL ECONOMY

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Abstract: Digital transformation has become a key factor influencing the competitiveness and sustainable development of modern enterprises. The rapid advancement of digital technologies, the growth of platform-based business models, and increasing customer expectations require organizations to redesign traditional approaches to management, operations, and value creation.

The purpose of this study is to investigate the main drivers of enterprise digital transformation, analyze the role of digital platforms and business ecosystems, assess approaches to digital maturity evaluation, and develop recommendations for improving transformation strategies. Particular attention is given to the experience of leading

Chinese digital enterprises that successfully implement advanced digital technologies and ecosystem-based business models.

The study examines the impact of digital platforms, artificial intelligence, big data analytics, cloud computing, and the Internet of Things on organizational development and business performance. The digital transformation models of JD.com, Pinduoduo, and Meituan are analyzed to identify practical approaches to technology integration, ecosystem development, and customer value creation.

The research demonstrates that successful digital transformation requires the alignment of technological innovation with business strategy, organizational capabilities, and digital culture. The study also presents a digital maturity framework that can be used to evaluate enterprise readiness for transformation and support strategic planning.

Based on the analysis, a set of recommendations is proposed to assist organizations in improving digital maturity, enhancing operational efficiency, strengthening competitiveness, and achieving sustainable growth in the digital economy. The findings may be useful for both researchers and practitioners involved in digital transformation initiatives.

Key words: digital transformation, digital economy, digital platforms, digital ecosystem, digital maturity, business model innovation, enterprise management, big data, artificial intelligence, Internet of Things, e-commerce, business process optimization.

Introduction: Digital transformation has emerged as one of the most significant strategic priorities for organizations seeking to remain competitive in this dynamic environment. Unlike conventional automation initiatives that focus primarily on improving existing processes, digital transformation involves a comprehensive rethinking of business models, organizational structures, customer relationships, and value creation mechanisms. It represents a multidimensional process that affects virtually every aspect of enterprise activity, from operational management and production systems to marketing, logistics, and innovation management.

The rapid advancement of technologies such as artificial intelligence, cloud computing, big data analytics, blockchain, and the Internet of Things has created unprecedented opportunities for organizations to improve efficiency, generate new sources of value, and establish innovative business models.

In recent years, digital transformation has evolved from a technological initiative into a strategic management challenge. Organizations increasingly recognize that technological investments alone cannot guarantee successful transformation. Effective implementation requires the alignment of business objectives, organizational culture, leadership practices, employee competencies, and technological infrastructure. Consequently, digital transformation must be approached as an integrated organizational process rather than a collection of isolated technology projects.

The importance of digital transformation is particularly evident in the context of platform-based economies. Digital platforms have fundamentally changed how value is created and exchanged by enabling direct interactions among producers, consumers,

service providers, and other stakeholders. Platform ecosystems reduce transaction costs, facilitate information exchange, support innovation, and enable the development of entirely new forms of economic activity. Companies that successfully leverage platform strategies are often able to achieve significant competitive advantages through network effects, data-driven decision-making, and ecosystem expansion.

At the same time, digital transformation introduces new challenges related to cybersecurity, data governance, workforce adaptation, and organizational change management.

Despite extensive research on digital transformation, organizations continue to face challenges related to strategy development, technology integration, and organizational adaptation. Therefore, studying successful transformation practices and assessing digital maturity remain important areas of both academic and practical interest.

The purpose and objectives of the study is to investigate the theoretical foundations and practical aspects of enterprise digital transformation, identify the key factors influencing successful transformation processes, assess approaches to measuring digital maturity, and develop recommendations aimed at improving digital transformation strategies in modern enterprises.

The objectives of the study are:

– to analyze contemporary approaches to enterprise digital transformation;

– to investigate the role of digital platforms and business ecosystems;

– to assess enterprise digital maturity;

– to develop recommendations for improving digital transformation strategies.

The object of the study is the process of enterprise digital transformation within the modern digital economy.

The subject of the study is the influence of digital technologies, digital platforms, and digital business models on organizational development, operational efficiency, and enterprise competitiveness.

The practical significance of the study lies in the development of recommendations that can be applied by enterprises seeking to increase digital maturity, improve business processes, enhance customer value, and achieve sustainable competitive advantages in an increasingly digitalized business environment.

Research results and their discussion. The rapid development of digital technologies has fundamentally altered the way organizations operate, compete, and create value. Digital transformation is no longer considered an optional modernization initiative but has become a strategic necessity for enterprises seeking sustainable growth and long-term competitiveness. The emergence of digital ecosystems, intelligent technologies, and data-driven management approaches has created new opportunities while simultaneously increasing the complexity of business environments. As a result, enterprises are compelled to redesign their business models, operational processes, and organizational structures to meet the requirements of the digital economy, Fig. 1.

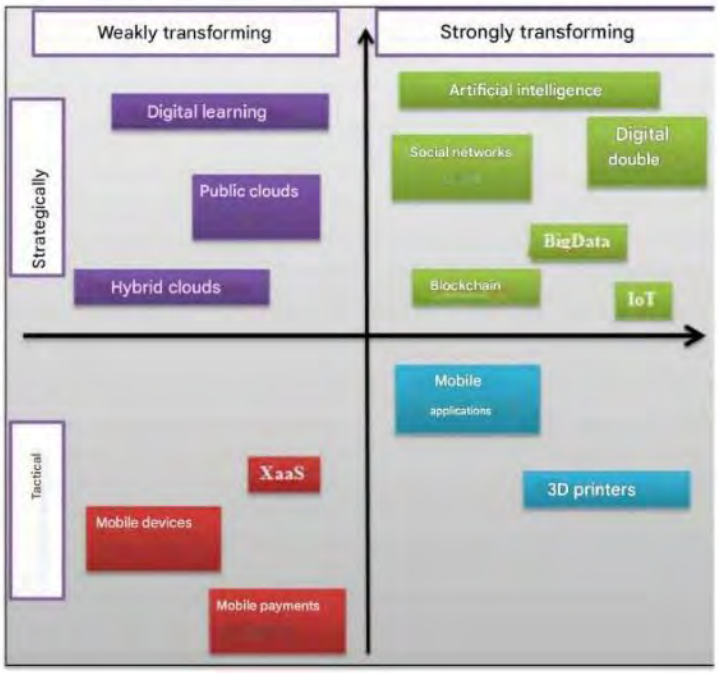

Figure 1. Transformative Digital Technologies

Digital transformation is driven by a combination of technological, economic, organizational, and social factors. These drivers influence not only the implementation of specific technologies but also the overall strategic direction of enterprise development. Understanding these factors is essential for organizations aiming to successfully navigate the transition from traditional operational models to digitally enabled business ecosystems.

One of the most significant drivers of digital transformation is the exponential growth of data. Modern organizations generate and process enormous volumes of information originating from customers, suppliers, production systems, logistics networks, mobile devices, and online platforms. Data has become a strategic resource comparable to traditional assets such as capital, labor, and infrastructure. Enterprises capable of effectively collecting, processing, and analyzing data can obtain valuable insights into customer behavior, market dynamics, and operational performance.

The growing importance of data has led to the widespread adoption of big data analytics. Unlike traditional analytical methods, big data technologies enable organizations to process large volumes of structured and unstructured information in real time. This capability supports more accurate forecasting, risk assessment, customer segmentation, and strategic planning. Consequently, decision-making increasingly shifts from intuition-based approaches toward data-driven management practices.

Artificial intelligence has emerged as another powerful catalyst for digital transformation. AI technologies allow enterprises to automate routine operations, improve analytical capabilities, and create intelligent systems capable of learning from experience. Machine learning algorithms are increasingly used for demand forecasting, predictive maintenance, fraud detection, customer support automation, and

personalized marketing. These applications not only improve operational efficiency but also enhance customer satisfaction and business agility.

Cloud computing provides scalable and flexible infrastructure that enables organizations to deploy digital services rapidly, reduce costs, and support innovation.

Internet of Things technologies enable real-time monitoring of assets and processes, improving operational visibility, automation, and resource management.

The increasing adoption of digital platforms has also transformed traditional approaches to value creation. Digital platforms serve as technological infrastructures that facilitate interactions among multiple groups of participants, including customers, suppliers, service providers, and business partners. Unlike conventional linear business models, platform-based models generate value through network effects, where the participation of additional users increases the overall value of the ecosystem. This approach has enabled the emergence of some of the world's most successful digital enterprises.

At the organizational level, digital transformation is driven by the need to improve operational efficiency. Digital technologies enable the automation of repetitive tasks, optimization of resource utilization, and reduction of operational costs. Automated workflows, intelligent process management systems, and integrated enterprise platforms contribute to greater productivity and more effective coordination across organizational units. These improvements are particularly important in complex business environments where efficiency directly affects profitability and competitive performance.

Furthermore, digital transformation supports organizational resilience and adaptability. Recent global economic disruptions have demonstrated the importance of flexible business models capable of responding rapidly to changing market conditions. Digital enterprises can often adapt more effectively due to their reliance on data-driven decision-making, remote collaboration technologies, cloud infrastructures, and scalable digital platforms. These capabilities enable organizations to maintain continuity and pursue growth opportunities even under conditions of uncertainty.

Digital Platforms and Business Ecosystems as a Foundation of Transformation. The rapid development of digital technologies has led to the emergence of a new economic paradigm in which value creation increasingly depends on digital platforms and interconnected business ecosystems. Unlike traditional enterprises that operate through linear value chains, modern digital organizations rely on platform-based structures that facilitate interactions among multiple stakeholders. These stakeholders may include customers, suppliers, manufacturers, logistics providers, service companies, financial institutions, and government agencies. Through digital platforms, organizations are able to coordinate these interactions more efficiently, create new sources of value, and establish sustainable competitive advantages.

Digital platforms represent technological environments that enable the exchange of information, services, products, and resources among participants within a shared ecosystem, Fig. 2. Their primary objective is not merely to automate business

operations but to create an integrated environment where all participants can collaborate and benefit from network effects. The more participants join the platform, the greater the value generated for all ecosystem members. This phenomenon distinguishes platform-based business models from traditional business structures and explains the rapid growth of leading digital enterprises worldwide.

One of the key characteristics of digital platforms is their ability to generate network effects. Network effects occur when the value of a platform increases as additional users join and participate. For example, an e-commerce platform becomes more attractive to consumers when more sellers offer products, while sellers benefit from access to a larger customer base. This self-reinforcing mechanism contributes to rapid ecosystem expansion and creates significant barriers to entry for competitors.

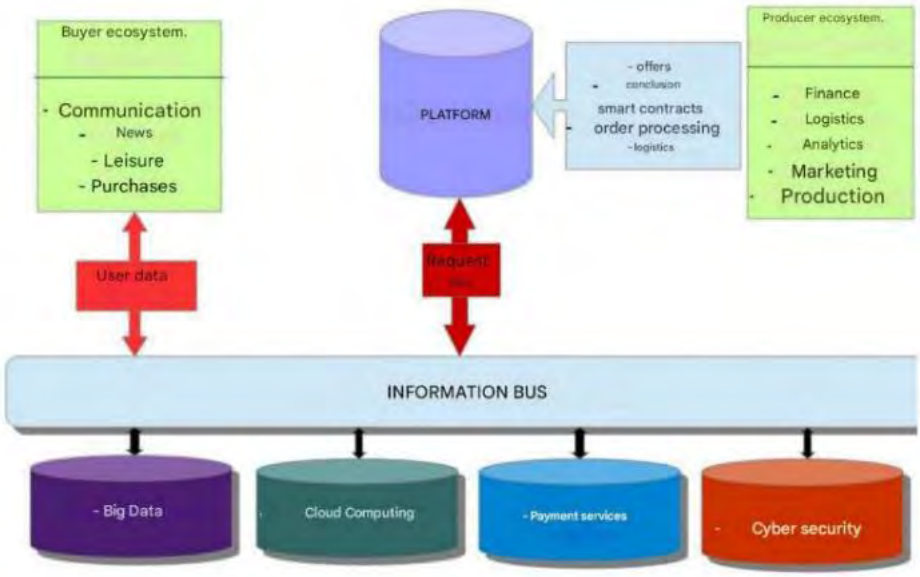

Figure 2. Digital Platform Architecture

Another important feature of digital platforms is their ability to facilitate data-driven decision-making. Every interaction within the ecosystem generates valuable information regarding customer preferences, purchasing behavior, operational performance, and market trends. By analyzing these data streams, organizations can improve service quality, optimize processes, develop personalized offerings, and identify new business opportunities. Data thus becomes a central asset within digital ecosystems and serves as the foundation for strategic management.

The transformation from traditional value chains to digital ecosystems has also changed the nature of business relationships. Historically, companies operated through hierarchical structures where information flowed primarily in one direction. Digital ecosystems replace these rigid structures with dynamic networks characterized by continuous communication and collaboration among participants. This shift enhances organizational flexibility and enables more rapid responses to market changes, Fig. 3.

Figure 3. Enterprise Ecosystem Interaction Model

The emergence of ecosystem-based business models has also influenced organizational strategy. Traditional competitive advantages based on physical assets and economies of scale are gradually being complemented by advantages derived from data, connectivity, innovation capacity, and ecosystem participation. Organizations must therefore focus not only on internal optimization but also on their ability to attract partners, facilitate interactions, and generate value within broader digital networks.

The analysis of digital platforms and business ecosystems demonstrates that they represent far more than technological infrastructures. They function as strategic mechanisms that redefine value creation, transform business relationships, and support organizational innovation. By facilitating collaboration, generating network effects, and enabling data-driven decision-making, digital platforms provide the foundation upon which modern digital transformation initiatives are built. Understanding these mechanisms is essential for analyzing how leading Chinese enterprises have successfully implemented digital transformation strategies through platform-based ecosystems, which is examined in the following section.

Digital Transformation Models in Digital Enterprises. Over the past two decades, the country has experienced rapid growth in digital infrastructure, internet penetration, mobile technologies, cloud computing, artificial intelligence, and e-commerce. Supported by large-scale investments, favorable government initiatives, and a highly dynamic business environment, enterprises have become global examples of successful digital transformation. The experiences of companies such as JD.com, Pinduoduo, and Meituan illustrate how digital technologies can be integrated into business strategies to create new value, improve operational efficiency, and establish sustainable competitive advantages.

Comparative Analysis of Digital Transformation Approaches approve in Table 1.

Table 1. Comparative Characteristics of Digital Transformation in Digital Enterprises

Parameters.	JD.com	Pinduoduo	Meituan
The business strategy has been updated in accordance with the MDGs. The SDGs are formalized and documented.	1	1	1
MDGs in those areas of activity that affect added value.	1	0	0
Direct effect of the CTR.	0	1	0

Continuation of Table 1

Parameters.	JD.com	Pinduoduo	Meituan
Business model transformation.	1	0	0
Data are factors of production.	1	0	0
Digital corporate culture.	0	1	0
The DTR is cross-functional in nature.	1	0	1
Digital twin	0	0	1
Changing or adding to the business model	0	1	0

Digital Maturity Assessment Framework. The successful implementation of digital transformation requires not only the adoption of advanced technologies but also a clear understanding of an organization's readiness to utilize these technologies effectively. Enterprises differ significantly in their technological capabilities, organizational structures, management approaches, and digital competencies. Consequently, evaluating the current state of digital development becomes a critical prerequisite for designing and implementing a successful transformation strategy.

As digital transformation becomes increasingly important for enterprise competitiveness, the concept of digital maturity has attracted significant attention from both researchers and practitioners, Table 2. Although different maturity models have been proposed, most of them share a common objective: to evaluate the evolution of an organization from basic digitalization toward fully integrated.

Digital transformation is no longer viewed as a separate initiative but rather as an integral component of organizational identity. Processes are continuously monitored, measured, and optimized using real-time information. Predictive analytics enable proactive decision-making, while intelligent systems identify opportunities for improvement before problems occur.

The organizational culture emphasizes innovation, collaboration, and continuous learning. Employees are connected through digital platforms that facilitate communication, knowledge sharing, and collective problem-solving regardless of geographic location. Digital competencies are continuously developed through personalized training programs supported by data analytics.

Table 2 - Five levels of digital maturity [34]

Complete absence (chaotic)	Situational (isolated)	Controlled (systematic)	Certain (strategic)	Optimized (data driven)
Digital transformation is not formalized. MDG measures are poorly controlled, unpredictable and reactive.	The MDGs are implemented through non-permanent pilot projects. DTR measures are not systematic in nature and are aimed only at using new technologies for existing processes. The development of skills for implementing the MDGs depends on the project.	Company-wide management of the CTR is ensured by cross-functional projects. The measures are systematic, but intuitive and undocumented.	The SDG strategy defines functional goals for continuous development. There are formal processes that document the course of action. The MDGs are well managed. The strategy directly influences skill development and supports continuous self-learning.	Initiatives and measures to implement the MDGs are constantly measured and improved. Decisions are based on data, and activities are partially automated. Skill development is automated, data-driven, and adaptive.

Enterprises operating at this level are highly adaptable and resilient. Their ability to leverage data, automate processes, and integrate emerging technologies enables them to respond effectively to market disruptions and maintain competitive advantages in rapidly changing environments.

Digital maturity cannot be assessed solely through technological indicators. A comprehensive evaluation requires consideration of multiple dimensions that collectively determine an organization's transformation readiness.

Digital maturity assessment serves as a critical instrument for planning and managing transformation initiatives. By identifying the current maturity level, organizations can establish realistic objectives, prioritize investments, and design appropriate implementation roadmaps.

The analysis of digital maturity demonstrates that successful digital transformation requires more than technological investment. Sustainable transformation depends on the alignment of leadership, organizational structures, culture, technology, and data management practices. Enterprises that systematically develop these dimensions are more likely to achieve long-term success and maintain competitiveness within the digital economy.

The maturity framework presented in this study provides a practical foundation for evaluating transformation readiness and designing effective digital strategies. Building upon this framework, the next section presents recommendations for improving enterprise digital transformation and enhancing organizational digital capabilities.

Recommendations for Improving Enterprise Digital Transformation. In the contemporary digital economy, enterprises face increasing pressure to respond rapidly to market changes, customer expectations, and technological innovations. Consequently, digital transformation should not be viewed as a one-time project but rather as a continuous process of organizational development and adaptation. Based on the findings of this study, several strategic recommendations can be proposed to support enterprises in improving their digital transformation initiatives.

The framework presented in Fig. 4 illustrates the interconnected nature of digital transformation and highlights the necessity of balancing technological, organizational, managerial, and cultural changes. Sustainable transformation can only be achieved when these dimensions evolve simultaneously and support one another.

One of the most important prerequisites for successful transformation is the development of a clearly defined digital strategy. Many organizations fail to achieve expected outcomes because digital initiatives are implemented without a coherent long-term vision. As a result, investments become fragmented, projects remain isolated, and organizational benefits are limited.

A digital transformation strategy should be directly connected to the overall business strategy of the enterprise. Rather than focusing exclusively on technology implementation, managers must identify how digital solutions contribute to organizational objectives such as revenue growth, cost reduction, customer satisfaction, innovation, and market expansion.

Digital leaders must possess not only technological knowledge but also strong managerial and communication skills. Their responsibilities include coordinating stakeholders, managing resources, resolving conflicts, and promoting innovation throughout the organization.

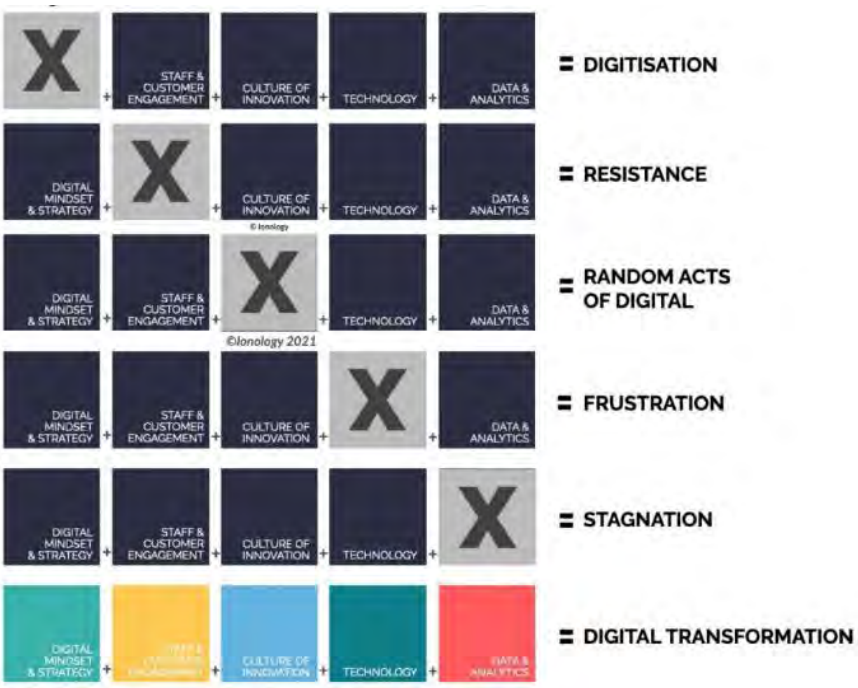

Figure 4. Five Change Blocks of Digital Transformation

The governance framework should also support cross-functional collaboration. Since digital transformation affects multiple organizational units simultaneously, coordination among departments is critical for achieving integrated outcomes. Formal communication mechanisms, interdisciplinary teams, and shared performance objectives can significantly enhance collaboration.

Technology remains a fundamental enabler of digital transformation. However, organizations should carefully evaluate technological investments to ensure alignment with business requirements and strategic priorities.

Customer-centric transformation involves understanding customer needs, preferences, and behaviors through systematic data collection and analysis. Digital platforms provide valuable opportunities to gather information regarding customer interactions, purchasing decisions, and satisfaction levels.

Advanced analytics can be used to develop personalized products, services, and communication strategies. Personalization improves customer experience while increasing engagement, loyalty, and revenue generation.

Organizations should also establish mechanisms for continuous customer feedback. Direct interaction with customers enables enterprises to identify emerging needs, evaluate service quality, and improve offerings more effectively.

Digital transformation increasingly occurs within ecosystems rather than isolated organizations. As a result, enterprises should focus on developing strategic partnerships that enhance their digital capabilities and market reach.

Collaboration with technology providers, research institutions, logistics companies, financial organizations, and platform operators can accelerate transformation efforts and reduce implementation risks. Ecosystem participation enables organizations to access specialized expertise, innovative technologies, and complementary resources.

Digital platforms provide an effective mechanism for facilitating such collaboration. Through shared infrastructures and standardized communication channels, ecosystem participants can coordinate activities, exchange information, and create value more efficiently.

The development of ecosystem-based business models also supports innovation by combining diverse competencies and perspectives. Organizations that actively participate in digital ecosystems are often better positioned to identify emerging opportunities and respond rapidly to market changes.

Key performance indicators may include operational efficiency, customer satisfaction, process automation rates, digital revenue generation, innovation performance, and employee digital competencies. These metrics provide valuable insights into transformation effectiveness and support evidence-based management.

Regular digital maturity assessments can further assist organizations in evaluating progress and identifying new priorities. By comparing current performance against established maturity frameworks, managers can determine which areas require additional attention and investment.

The findings of this study suggest that sustainable digital transformation depends on the successful integration of five key elements: strategy, technology, leadership, culture, and ecosystem development. These components are interconnected and mutually reinforcing. Weaknesses in any single area can significantly reduce overall transformation effectiveness.

The implementation of these recommendations can support organizations in increasing digital maturity, improving business performance, strengthening resilience, and achieving sustainable growth within an increasingly complex and dynamic digital environment.

Conclusions. Digital transformation has become one of the most important factors influencing the development and competitiveness of modern enterprises. The rapid advancement of information and communication technologies, the increasing significance of data as a strategic resource, and the emergence of platform-based business models have fundamentally changed the way organizations create value, interact with stakeholders, and achieve sustainable growth. In the context of the digital economy, transformation is no longer limited to the implementation of individual technologies but represents a comprehensive process of organizational, managerial, and cultural change.

The study confirmed that digital transformation is driven by a combination of technological, economic, and organizational factors. Among the most influential drivers are artificial intelligence, big data analytics, cloud computing, the Internet of Things, digital platforms, and ecosystem-based business models. These technologies provide enterprises with new opportunities for improving operational efficiency, enhancing customer experiences, supporting innovation, and strengthening competitive positions. At the same time, successful transformation requires the integration of technological solutions with strategic objectives and organizational capabilities.

Based on the results of the study, a set of recommendations was developed to support enterprise digital transformation. These recommendations emphasize the importance of strategic planning, digital leadership, technology adoption, data-driven management, customer-centric approaches, ecosystem development, and continuous performance monitoring. The findings indicate that sustainable transformation can only be achieved when technological innovation is supported by organizational change and the development of a strong digital culture.

The scientific value of the study lies in the systematization of contemporary approaches to digital transformation and the integration of theoretical concepts with practical experiences derived from leading digital enterprises. The proposed framework contributes to a deeper understanding of the mechanisms through which digital technologies influence organizational development and competitive performance.

The practical significance of the research is reflected in the development of recommendations that may be applied by enterprises seeking to increase digital maturity, improve operational efficiency, strengthen customer relationships, and enhance competitiveness in the digital economy. The presented approaches can support managers and decision-makers in designing effective transformation strategies and implementing digital initiatives that generate measurable business value.

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