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Research on the Influencing Factors and Implementation Path of Digital Transformation Driven by Digital Innovation in Enterprises

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Abstract: Against the backdrop of rapid development in the digital economy, digital innovation is reshaping enterprise innovation models and value creation methods, becoming an important driving force for promoting digital transformation of enterprises. However, digital transformation of enterprises is not a simple process of technology application, but a systematic process involving strategic adjustment, organizational change, resource integration, and ecological collaboration. This article is based on the theory of innovation ecology and dynamic capability, analyzing the internal logic of digital innovation driving enterprise digital transformation, and exploring the key factors and implementation paths that affect enterprise digital transformation. Research suggests that the empowerment of digital intelligence technology, integration of innovative resources, reshaping of organizational capabilities, and construction of innovative ecosystems are important factors driving digital transformation in enterprises; Enterprises should achieve deep integration of digital technology and business development by strengthening digital strategic leadership, enhancing digital technology application capabilities, optimizing organizational management models, and building an open innovation ecosystem. This article expands the research perspective of enterprise digital transformation under the background of digital innovation, and provides theoretical reference and practical inspiration for enterprise digital upgrading.

Keywords: Intelligent innovation, Enterprise digital transformation, Innovation ecosystem, Dynamic capability, implementation path.

1. Introduction

In recent years, the rapid development of new generation digital technologies represented by artificial intelligence, big data, cloud computing, and the Internet of Things has propelled global economic activities into a new stage of digital and intelligent integrated development. Digital technology has not only changed the production and operation mode of enterprises, but also reshaped the resource allocation mode, organizational operation logic, and value creation path of enterprises. In the context of the digital economy, the competitive advantage of enterprises is gradually shifting from traditional resource accumulation to digital resource development, intelligent technology application, and innovation capability enhancement. Digital transformation has become an important strategic choice for enterprises to achieve sustainable development.

However, digital transformation of enterprises is not a simple process of information technology application, but a systematic transformation process involving strategic adjustment, organizational change, business process optimization, and business model innovation. Vial points out that digital transformation is a process in which digital technology drives changes in organizational structure and value creation, and its impact not only involves technology applications, but also involves the comprehensive reshaping of enterprise strategies, organizational capabilities, and management models. Warner S K et al. further argue that enterprises need to identify digital opportunities, integrate digital resources, and drive organizational renewal through dynamic capability building in order to achieve sustainable digital transformation.

With the increasing complexity of digital technology, the traditional model of relying on internal enterprise resources to drive innovation and transformation is gradually facing challenges. On the one hand, digital technologies such as artificial intelligence and big data have highly specialized and rapidly iterating characteristics, making it difficult for enterprises to form long-term competitive advantages solely based on their own technological accumulation; On the other hand, data resources, technological resources, and innovative knowledge are increasingly distributed among different organizational entities, and enterprises need to obtain complementary resources through external cooperation. Therefore, the innovation model of enterprises is gradually developing from closed innovation to open innovation and ecological innovation.

The open innovation theory holds that enterprise innovation activities should not be limited to internal research and development, but should fully utilize external knowledge and resources to achieve innovative value creation through cooperation and communication. Furthermore, the theory of innovation ecology emphasizes that enterprise innovation activities are embedded in an ecological network composed of multiple entities such as enterprises, universities, research institutions, platform organizations, and governments. Each entity promotes innovation development through resource sharing, knowledge exchange, and value co creation. In the digital economy environment, digital technology further strengthens the connectivity between innovation entities, making innovation activities exhibit more obvious characteristics of intelligence, networking, and collaboration.

In this context, digital innovation has gradually become an important force driving the development of enterprises. Smart

innovation emphasizes the deep integration of digital technology and innovation activities, and enhances enterprise innovation efficiency through data-driven, intelligent empowerment, and ecological collaboration. On the one hand, digital technology can promote the rapid flow of knowledge, information, and resources between different entities, improving the efficiency of enterprise resource allocation; On the other hand, intelligent technology can enhance the perception ability of enterprises to changes in the market environment, and promote the continuous optimization of organizational and business models. Therefore, digital innovation not only provides a technological foundation for enterprise digital transformation, but also provides important support for enterprises to form new innovation capabilities and competitive advantages.

Although existing research has conducted extensive exploration around the digital transformation of enterprises, there are still certain shortcomings. Previous studies have mainly focused on internal factors such as digital technology applications, organizational capacity building, and strategic adjustments within enterprises, while insufficient attention has been paid to how digital innovation can promote digital transformation in enterprises and the roles played by different factors in this process. At the same time, some studies emphasize the important value of digital ecology and innovation networks, but there is still a lack of systematic analysis on how enterprises can achieve resource integration, organizational restructuring, and value creation mode upgrading through digital innovation.

Based on this, this article focuses on the theme of "Digital Innovation Driving Enterprise Digital Transformation". Based on the relevant theories of digital transformation, innovation ecology, and dynamic capabilities, it analyzes the internal logic of digital innovation driving enterprise digital transformation, explores the key factors affecting enterprise digital transformation, and further proposes optimization paths for enterprises to achieve digital transformation. This article aims to enrich the research perspective of enterprise digital transformation under the background of digital economy, and provide theoretical reference and practical inspiration for enterprises to enhance their digital competitiveness through digital intelligence innovation.

2. Literature Review and Theoretical Basis

With the continuous integration of digital technology into enterprise innovation activities, the innovation mode and organizational operation mode of enterprises are undergoing profound changes. Traditional innovation theory mainly emphasizes the important role of internal R&D capabilities and technological accumulation in enterprises. However, in the digital economy environment, innovation resources are gradually showing characteristics of openness, networking, and ecologicalization, and enterprises are increasingly relying on external knowledge, technology, and resources to achieve innovative development. Therefore, research on digital innovation, enterprise digital transformation, and innovation ecology has gradually become an important research direction in the field of management.

Existing research first explains from the perspective of open innovation how companies utilize external resources to enhance their innovation capabilities. In the open innovation model, enterprises break through traditional organizational boundaries and obtain complementary resources by establishing cooperative relationships with external entities, thereby improving innovation efficiency. This theory provides an important foundation for understanding how enterprises rely on external resources to carry out innovative activities in the context of the digital economy.

With the development of digital technology, enterprise innovation activities have further manifested their ecological characteristics. The theory of innovation ecology holds that enterprise innovation is not independently completed by a single entity, but a collaborative process formed by the participation of multiple stakeholders. Moore first proposed the concept of business ecosystem, which suggests that the development of enterprises increasingly relies on the interdependent relationships formed between suppliers, partners, and users. The innovation ecosystem emphasizes the formation of collaborative relationships among different entities around common value goals, achieving the transformation of innovative achievements through resource complementarity and role collaboration. Compared to traditional innovation networks, innovation ecosystems focus more on the dynamic relationships between entities and the process of value creation.

In the digital economy environment, digital technology further promotes the development of the innovation ecosystem towards intelligence. Digital platforms, big data, and artificial intelligence technologies have improved the efficiency of information connectivity between enterprises, enabling knowledge, data, and technology to quickly flow beyond organizational boundaries. Satish et al. pointed out that digital technology has changed the way innovation activities are generated, organized, and value realized, making digital innovation gradually an important mode of enterprise innovation. Digital innovation not only relies on technological applications, but also emphasizes the deep integration between digital technology and organizational capabilities, innovation resources, and ecological networks.

From the perspective of research on enterprise digital transformation, existing studies generally believe that digital transformation is an organizational change process driven by digital technology, rather than a simple information system upgrade. Vial G pointed out through a systematic review that digital transformation involves multiple aspects such as digital technology application, organizational structure adjustment, business process optimization, and value creation model reconstruction. Its core lies in enterprises using digital technology to redefine their own business logic. Warner S K et al. further proposed that enterprises need to build dynamic capabilities to achieve sustained digital transformation by perceiving digital opportunities, integrating digital resources, and driving organizational renewal.

Domestic scholars have also conducted extensive research on the digital transformation of enterprises. Related studies suggest that digital transformation is not only influenced by technological factors, but also by multiple factors such as corporate strategic awareness, organizational capabilities, management models, and external environment. The development of digital technology provides the basic conditions for enterprise transformation, but whether enterprises can effectively utilize digital technology depends on their resource integration ability and organizational adaptability. Therefore, the digital transformation of enterprises is actually the result of the combined effects of

technological factors, management factors, and ecological factors.

From the perspective of digital innovation, digital transformation has further broken through the scope of traditional digital construction. Digital innovation emphasizes the deep integration of intelligent technologies such as artificial intelligence and big data analysis with enterprise innovation activities. Its core lies in using digital technology to improve the efficiency of enterprise innovation resource allocation, enhance organizational learning capabilities, and promote business model innovation. On the one hand, digital intelligence technology can help enterprises achieve data-driven decision-making and improve market response speed; On the other hand, digital innovation can promote closer innovation cooperation between enterprises and external entities, and facilitate the cross organizational flow of innovation resources. Therefore, digital innovation has become an important link between the application of digital technology and the digital transformation of enterprises.

However, existing research still has certain shortcomings. Firstly, existing research on enterprise digital transformation has mainly focused on digital technology applications, organizational capacity building, and strategic management, with relatively insufficient attention paid to the new innovation model of digital innovation. Secondly, although research on innovation ecology emphasizes the important role of multi-agent collaboration, there is still a lack of further analysis on how innovation resources can achieve value creation through ecological networks in the digital intelligence environment. Finally, existing research focuses more on the results and influencing factors of digital transformation, and further discussion is needed on the specific path for enterprises to achieve transformation and upgrading through digital innovation.

Based on the shortcomings of the above research, this article takes digital innovation as an important perspective for analyzing the digital transformation of enterprises. Based on existing theories of digital transformation, innovation ecology, and dynamic capabilities, it further explores the influencing factors and implementation paths of digital innovation driving enterprise digital transformation, in order to enrich the research on enterprise transformation and upgrading under the background of digital economy.

3. The Logic of the Role of Digital Intelligence Innovation in Driving Enterprise Digital Transformation

Digital transformation is the process in which enterprises use digital technology to drive strategic adjustments, organizational changes, and value creation model upgrades. Its implementation not only depends on technological conditions, but is also influenced by various factors such as enterprise strategy, organizational capabilities, resource allocation, and external innovation environment. As a new innovation model that deeply integrates digital technology and innovation activities, digital intelligence innovation provides new driving force for enterprise digital transformation by changing the way enterprises acquire resources, innovate organizational models, and value creation logic. From the perspective of influencing factors, digital innovation mainly promotes the digital transformation of enterprises through digital technology empowerment, strategic guidance, organizational capability reshaping, resource integration, and innovation ecosystem collaboration.

(1) Fundamentals of Digital Technology Evolution and Enterprise Transformation

Digital technology is the fundamental condition for promoting the digital transformation of enterprises and an important support for the formation of digital innovation. With the rapid development of technologies such as artificial intelligence, big data, cloud computing, and the Internet of Things, the way enterprises acquire, process, and utilize information has undergone fundamental changes. Digital technology is gradually transforming from auxiliary tools to core resources that drive enterprise innovation and development. Digital technology has enhanced the information processing capabilities of enterprises. In traditional business models, due to limited channels for information acquisition, companies often rely on experience and historical data for decision-making. Big data analysis and artificial intelligence technology can help enterprises identify potential patterns from massive data, improve market forecasting and business decision-making capabilities, and enable enterprises to respond more accurately to market changes. Digital technology promotes the optimization of business processes in enterprises. The important goal of digital transformation is not simply to achieve online business, but to use digital technology to redesign enterprise business processes. Through digital supply chain technology, enterprises can improve supply chain collaboration efficiency and reduce operating costs. Digital technology drives innovation in business models for enterprises. The development of digital platforms and data resources enables enterprises to break through traditional product sales models and form new business models through platform based operations, personalized services, and data value development. Satish et al. (2017) pointed out that digital technology has changed the way innovation activities are generated and the process of value realization, making enterprise innovation more dependent on digital resources and digital ecosystems. Therefore, digital technology is not only the technological foundation for enterprise digital transformation, but also an important starting point for digital innovation to drive enterprise transformation.

(2) Digital Strategy Awareness and Enterprise Transformation Choices

Digital transformation is not simply a technological upgrade, but a strategic change that involves the long-term development of enterprises. Therefore, the strategic awareness and planning of digital transformation by enterprise management are important factors that affect the effectiveness of transformation.

The digital cognition of management determines the direction of enterprise transformation. In the digital economy environment, business leaders need to recognize that digital technology can not only improve operational efficiency, but also change the way businesses compete and create value. If companies only view digital technology as a tool to reduce costs and ignore its strategic value, it can easily lead to digital construction remaining at the surface level. Digital strategic planning determines the path of digital transformation. Enterprises need to develop clear digital development strategies based on their own business characteristics and development goals, including digital technology application

directions, data resource management methods, and organizational capacity building plans. Digital construction without strategic planning is prone to problems such as scattered technology investment and low resource utilization efficiency. Strategic leadership can promote the formation of a digital transformation consensus within the enterprise. Digital transformation involves multiple departments and business processes within an enterprise, requiring management to promote organizational collaboration and create a digital development environment where all employees participate.

Warner S K's research suggests that digital transformation of enterprises requires strategic updates through dynamic capability building, in which management plays an important role in identifying digital opportunities and strategic responsiveness. Therefore, strategic leadership is an important guarantee for digital innovation to promote the digital transformation of enterprises.

(3) Organizational Capability Transformation and Digital Transformation Adaptation

Digital transformation not only changes the technological system of enterprises, but also requires corresponding adjustments to the organizational structure and management mode of enterprises. Traditional organizational structures often emphasize hierarchical control and departmental division of labor, while digital environments require enterprises to have more flexible, open, and collaborative organizational capabilities.

Digital transformation requires enterprises to enhance their organizational learning capabilities. The rapid changes in digital technology mean that enterprises need to constantly learn new technological knowledge and management methods, and enhance organizational adaptability through continuous learning. Digital transformation drives the flattening of organizational structure. Digital technology has improved the efficiency of information transmission, enabling enterprises to reduce information barriers between traditional levels and increase organizational response speed. Digital transformation promotes cross departmental collaboration. Data resources and digital technology applications often involve multiple links such as research and development, production, marketing, and supply chain, requiring enterprises to break through departmental barriers and achieve business process collaboration.

The dynamic capability theory suggests that a company's competitive advantage comes from its ability to perceive environmental changes, integrate resources, and adjust organizational capabilities (Cruz S. F., 1997). In the context of digital innovation, enterprises need to constantly adjust their organizational structure and management models in order to fully leverage the value of digital technology. Therefore, organizational capability reshaping is an important internal condition for enterprises to achieve digital transformation.

(4) Integration of Digital Resources and Formation of Enterprise Innovation Capability

In the era of digital economy, the competitive advantage of enterprises increasingly relies on their ability to acquire and utilize digital resources. Due to the decentralization of data, technology, and knowledge resources, it is difficult for enterprises to rely solely on internal resources to complete digital transformation, and they need to achieve innovation capability enhancement through resource integration.

On the one hand, digital innovation promotes enterprises to acquire external innovation resources. By establishing connections with universities, research institutions, platform enterprises, and industry chain partners, enterprises can obtain technical, talent, and knowledge support.

On the other hand, digital innovation promotes the reorganization of internal resources within enterprises. Enterprises need to integrate digital technology, business resources, and management capabilities to form new digital capabilities.

The resource-based theory suggests that a company's competitive advantage comes from valuable, scarce, and difficult to imitate resources (Barney J 1991). However, in the digital economy environment, resource advantages not only come from enterprises owning resources, but also from their ability to integrate and utilize resources. Therefore, the ability to integrate resources has become an important bridge connecting digital innovation and enterprise digital transformation.

(5) Collaborative Innovation Ecology and Construction of Enterprise Transformation Environment

With the development of the digital economy, the digital transformation of enterprises is gradually shifting from individual internal activities to a collaborative process of ecosystems.

The theory of innovation ecology holds that enterprise innovation activities rely on the joint participation of multiple entities to achieve innovation goals through resource complementarity and value co creation. In the context of digital innovation, enterprises can obtain richer digital resources and innovation opportunities by participating in the innovation ecosystem. Innovation ecology promotes knowledge sharing among enterprises. The communication and cooperation between different entities can promote the dissemination of technological knowledge and improve innovation efficiency. Innovation ecology promotes industrial chain synergy. Enterprises connect suppliers, customers, and partners through digital platforms to achieve collaboration in production, supply, and service processes. Innovation ecology enhances the adaptability of enterprises to the environment. In the context of market changes and rapid technological iteration, enterprises need to leverage ecological networks to quickly access information and resources, and improve their adaptability. Therefore, collaborative innovation ecology is not only an important external condition for enterprise digital transformation, but also an important way to realize the value of digital innovation.

4. Key Influencing Factors of Enterprise Digital Transformation Under the Background of Intelligent Innovation

Digital innovation provides new impetus for the digital transformation of enterprises, but digital technology itself does not automatically transform into a competitive advantage for enterprises. The implementation of digital transformation requires enterprises to combine technology applications with strategic planning, organizational capabilities, resource management, and ecological collaboration, forming a systematic transformation process

driven by technology empowerment, capability reshaping, and ecological construction. Compared with traditional information construction, digital transformation under the background of digital innovation focuses more on data value mining, intelligent decision support, and innovation ecosystem construction. Therefore, enterprises need to promote the deep integration of digital technology and business management activities from multiple levels.

(1) Adjustment of Enterprise Transformation Direction Driven by Digital Intelligence Strategy

The digital transformation of enterprises is primarily a strategic change, rather than a simple technological upgrade. In the process of promoting digital construction, some enterprises often understand digitalization as information system construction or online business processes, while ignoring the deep impact of digital technology on enterprise strategic models, organizational structures, and value creation methods, resulting in a lack of effective connection between digital investment and long-term development goals of the enterprise. Therefore, enterprises need to re evaluate the value of digital innovation from a strategic perspective and incorporate digital transformation into their overall development plan.

The level of recognition of the value of digital technology by management directly affects the direction and depth of a company's digital transformation. In the digital economy environment, digital technology can not only improve the operational efficiency of enterprises, but also change their competitive logic and business models. Enterprise leaders need to break through traditional management thinking and view digital transformation as an important strategic opportunity to promote innovative development of the enterprise. By clarifying digital development goals, they can guide technology investment, organizational adjustments, and business innovation to be promoted in a coordinated manner.

At the same time, the digital strategy of enterprises needs to be dynamically adjusted based on their industry characteristics, resource base, and development stage. Due to the varying digital needs of different industries, enterprises cannot simply replicate the digital models of other organizations, but should explore digital paths that are suitable for their own development around their core business. The digital technology environment is highly dynamic, and enterprise digital strategies also need to maintain the ability to continuously adjust. Warner S K et al. pointed out that digital transformation is essentially a process in which enterprises continuously update their strategies and capability systems. Enterprises need to constantly perceive external digital opportunities and drive organizational change through resource integration. Therefore, strengthening strategic leadership is an important prerequisite for promoting digital transformation of enterprises through digital innovation.

(2) Digital Technology Empowerment and Business Model Innovation

Digital technology is an important foundation for digital innovation and a crucial support for enterprises to achieve digital transformation. However, the value of digital technology does not depend on the technology itself, but on whether enterprises can effectively integrate digital technology into business processes and operations.

In the process of digital transformation, enterprises need to strengthen the construction of digital infrastructure to provide technical support for data collection, information processing, and intelligent decision-making. The development of cloud computing, big data platform, artificial intelligence system, industrial Internet and other technologies enables enterprises to break through the traditional information processing mode and achieve more rapid and accurate resource allocation. At the same time, digital infrastructure also provides conditions for information sharing between different departments within the enterprise, enhancing the overall collaborative efficiency of the organization. More importantly, enterprises need to promote the deep integration of digital technology and core business. The value of digital transformation lies not in introducing more digital tools, but in utilizing digital technology to re optimize business processes and create new value models. Therefore, enterprises need to combine the application of digital technology with innovative activities, and enhance their sustainable development capabilities through digital innovation.

(3) Organizational Capability Restructuring in Digital Transformation

Digital transformation not only changes the technological system of enterprises, but also drives changes in their organizational structure and management models. The traditional organizational model usually relies on hierarchical management and departmental division of labor, while the digital innovation environment requires enterprises to have more flexible organizational structures and more open collaboration mechanisms.

Enterprises need to reduce internal obstacles in the process of digital transformation through organizational adjustments. The application of digital technology often involves multiple business processes such as research and development, production, marketing, and supply chain. If there are obvious information barriers between different departments, digital resources are difficult to fully realize their value. Therefore, enterprises need to establish cross departmental collaboration mechanisms to enable efficient flow of data and knowledge within the organization. At the same time, digital transformation has put forward new requirements for employees' abilities. The application of digital technology not only requires professional technical talents, but also requires enterprise employees to have basic data awareness and digital thinking. Enterprises should cultivate talents, organize learning, and enhance abilities to enable employees to adapt to digital work methods.

In addition, organizational culture is also an important factor affecting digital transformation. Digital innovation emphasizes continuous innovation and open cooperation. If enterprises still maintain traditional and conservative management concepts, it will be difficult to fully leverage the innovative value brought by digital technology. Therefore, enterprises need to form an organizational culture that encourages innovation, supports trial and error, and continuous learning.

The dynamic capability theory suggests that when facing rapidly changing environments, enterprises need to continuously adjust their resource allocation methods and organizational capability structures in order to maintain long-term competitive advantages. Therefore, organizational capability reshaping is an important internal guarantee for enterprises to achieve digital transformation.

(4) Development of Data Resources and Enhancement of

Enterprise Value Creation

In the context of digital innovation, data has become an important strategic resource for enterprises. Unlike traditional resources, data has the characteristics of replicability, shareability, and sustainable utilization. Its value does not come from ownership itself, but from the ability of enterprises to analyze, integrate, and apply data.

During the process of enterprise digital transformation, a large amount of business data, user data, and production data will be generated. Without an effective data management system, data resources are prone to isolation and difficult to convert into actual value. Therefore, enterprises need to establish a unified data governance system, improve data quality and resource utilization efficiency, and provide a reliable foundation for digital decision-making. On the basis of data management, enterprises also need to enhance their data application capabilities. Through data analysis, enterprises can more accurately identify changes in market demand, optimize production and operation processes, and promote product and service innovation. Meanwhile, the increase in data value is also accompanied by security and governance issues. In the process of using data to drive innovation, enterprises need to establish a sound data security management mechanism to ensure the standardization and reliability of data usage.

Therefore, data resource management is not only an important foundation for enterprise digital transformation, but also an important way for digital innovation to achieve value creation.

5. The Realistic Dilemma and Optimization Path of Enterprise Digital Transformation Under the Background of Intelligent Innovation

Digital innovation provides new development momentum for enterprise digital transformation, but enterprise digital transformation is not a simple process of technological application, but a systematic change involving strategic adjustment, organizational change, resource restructuring, and ecological collaboration. In the actual implementation process, due to differences in enterprise development stages, resource foundations, and management capabilities, digital transformation still faces many practical challenges. In response to these issues, enterprises need to form a systematic optimization path from strategic planning, technology integration, organizational capabilities, data governance, and ecological construction to promote the effective release of the value of digital innovation.

(1) Insufficient Digital Strategic Positioning and Improvement of Strategic System

The first problem that enterprises face in digital transformation is insufficient strategic positioning. Although some enterprises have already carried out digital construction, they still understand digitalization as information system upgrading, equipment intelligent transformation, or online business processes, and have not fully recognized the deep impact of digital innovation on enterprise business models and competitive logic. This cognitive bias can easily lead to a lack of overall planning for digital construction, a lack of collaboration between different digital projects, and difficulty in forming long-term digital competitive advantages.

The important reason for this problem is that digital transformation involves a comprehensive adjustment of enterprise strategy, organizational structure, and business models, while traditional management models often focus more on short-term investment and direct benefits, and have insufficient understanding of the importance of digital capability building. Therefore, enterprises need to incorporate digital innovation into their long-term development strategies and plan the direction of digital transformation from the perspective of overall enterprise development.

In specific practice, enterprises should formulate differentiated digital strategies based on their own industry characteristics, resource base, and development stage, and clarify the focus of digital technology application and business innovation direction. At the same time, it is necessary to establish a dynamic adjustment mechanism to continuously optimize digital strategies based on technological development trends and market environment changes. Through strategic planning, a synergistic relationship is formed between digital technology investment, organizational change, and business innovation.

(2) Insufficient Technical Application Capability and Deepening Business Integration

Digital technology is an important foundation for enterprise digital transformation, but insufficient technological application capabilities still limit the effectiveness of enterprise transformation. Some enterprises have the problem of emphasizing technology introduction over business integration in the process of digitization, investing a lot of resources in building digital platforms, but failing to fully integrate the technical value with actual business needs.

The core of digital innovation lies not in simply applying advanced technology, but in using digital technology to solve practical problems in enterprise management. Therefore, enterprises need to promote the transformation of digital technology from tool applications to capacity building. Specifically, enterprises should strengthen the integration of technologies such as artificial intelligence, big data, and cloud computing with core business scenarios. In the field of marketing, precision marketing is achieved through data analysis; In the field of supply chain management, improving upstream and downstream collaboration efficiency through digital platforms. At the same time, enterprises also need to strengthen the cultivation of digital talents and improve employees' ability to understand and apply digital technology. Digital transformation ultimately needs to be driven by organizational members, and without a corresponding talent base, even with advanced technology, it is difficult to form a sustainable competitive advantage.

(3) Insufficient organizational adaptability and restructuring of management mode

Digital transformation not only changes the technological system of enterprises, but also puts forward new requirements for organizational structure and management methods. However, many enterprises still adopt traditional hierarchical management models, and there are departmental barriers and information silos within the organization, which affect the flow of digital resources and innovation collaboration.

The digital innovation environment requires enterprises to have more flexible and open organizational capabilities.

Enterprises need to adjust their organizational structure, strengthen data sharing and business collaboration between different departments, and truly integrate digital technology into their business processes. At the same time, digital transformation also requires enterprises to change their traditional management concepts. Enterprises need to establish an organizational culture that supports innovation and continuous learning, and improve employees' acceptance of digital change. By cultivating talents, adjusting positions, and organizing learning, enterprises can form organizational capabilities that match the digital economy environment. From the perspective of dynamic capabilities, a company's competitive advantage does not come from fixed resources, but from the ability to continuously adjust and restructure resources. Therefore, organizational capability reshaping is an important guarantee for enterprises to achieve sustained digital transformation.

(4) Insufficient Innovation Ecology and Collaborative Mechanism Construction

Under the background of digital innovation, the digital transformation of enterprises increasingly relies on external innovation resources. However, some companies still adopt a closed innovation model and lack deep cooperation with external entities, making it difficult for them to obtain sustained innovation momentum.

The theory of innovation ecology holds that a company's innovation capability depends not only on its own resources, but also on the collaborative relationships within its ecosystem. Therefore, enterprises need to break through traditional organizational boundaries and actively build an open innovation ecosystem. Specifically, enterprises can obtain cutting-edge technological resources through cooperation with universities and research institutions, improve resource allocation efficiency through industrial chain collaboration, and promote data sharing and value co creation through digital platform construction. At the same time, enterprises also need to improve their ecological cooperation mechanisms, clarify the interests and cooperation models between different entities, and promote the transformation of innovation ecology from simple cooperation relationships to long-term value co creation relationships.

6. Conclusion and Prospect

In the context of rapid development of the digital economy, the competitive environment, innovation models, and value creation methods of enterprises are undergoing profound changes. As a new innovation model that deeply integrates digital technology and innovation activities, digital intelligence innovation provides important impetus for enterprises to break through traditional development models, enhance innovation capabilities, and promote digital transformation. This article focuses on the theme of digital innovation driving enterprise digital transformation. Based on the theoretical foundations of digital transformation, innovation ecology, and dynamic capabilities, it analyzes the key factors that digital innovation affects enterprise digital transformation, and further explores the logical path and practical challenges faced by enterprises in achieving digital transformation.

Research has shown that digital transformation of enterprises cannot be achieved solely through investment in digital technology, but is the result of multiple factors such as technology, strategy, organization, resources, and ecology working together. Among them, the development of digital technology provides fundamental support for the digital transformation of enterprises, enabling them to utilize technologies such as artificial intelligence, big data, and cloud computing to enhance their information processing capabilities and operational efficiency; The level of strategic awareness determines the direction and depth of a company's digital transformation, and is an important prerequisite for promoting sustained transformation; Organizational capability restructuring provides internal support for the application of digital technology, enabling enterprises to adapt to more open and flexible management models in the digital economy environment. At the same time, the value development of data resources and the collaborative innovation ecosystem further promote the formation of digital capabilities in enterprises, enabling them to achieve sustainable development through resource integration and value co creation. Furthermore, under the background of digital innovation, the digital transformation of enterprises presents a trend from technology application to capacity building, and from internal optimization to ecological collaborative development. Enterprises need to break through traditional digital construction thinking, combine digital technology with strategic planning, business innovation, and organizational change, and achieve transformation and upgrading by building a systematic digital capability system. In this process, enterprises not only need to pay attention to the construction of digital infrastructure, but also need to attach importance to the cultivation of digital talents, the shaping of organizational culture, and the construction of innovation ecology, in order to promote the true transformation of digital technology into long-term competitive advantages for enterprises.

The theoretical contribution of this article is mainly reflected in the following aspects. Firstly, this article expands the research framework of enterprise digital transformation from the perspective of digital innovation. Previous studies have mainly analyzed factors such as digital technology applications, organizational capabilities, and strategic management. However, this article further emphasizes the role of digital innovation in connecting technology development, resource integration, and ecological collaboration, providing a new research perspective for understanding the driving forces behind enterprise digital transformation. Secondly, this article combines innovation ecology theory and dynamic capability theory to systematically analyze the process of enterprise digital transformation, further enriching the theoretical content of enterprise transformation research under the background of digital economy. Thirdly, this article summarizes the implementation logic of enterprise digital transformation from multiple dimensions such as technological empowerment, organizational change, resource management, and ecological collaboration, providing a theoretical reference for enterprises to formulate digital development strategies.

From the perspective of management practice, enterprises promoting digital transformation need to avoid simply understanding digitalization as technology procurement or system construction, and should view it as a long-term process involving strategic, organizational, and business model innovation. Enterprise managers should strengthen

their understanding of the value of digital innovation and integrate digital transformation into the overall development strategy of the enterprise; At the same time, enterprises should enhance their adaptability to changes in the digital environment by improving their digital technology application capabilities, perfecting their data governance systems, and strengthening innovation ecosystem cooperation. Only by achieving the coordinated development of technological innovation and management innovation can enterprises fully unleash the value brought by digital innovation.

Of course, there are still certain shortcomings in this article. Due to the main theoretical analysis method used in this article, a systematic review of the influencing factors and implementation paths of digital transformation driven by digital innovation in enterprises has been conducted, but it has not been thoroughly validated with specific industry data or enterprise cases. Therefore, future research can further use methods such as case studies, questionnaire surveys, or quantitative analysis to empirically test the impact mechanisms of digital transformation in different types of enterprises. In addition, with the development of generative artificial intelligence, intelligent manufacturing, and data element markets, the connotation of digital innovation is constantly expanding. Future research can further focus on how emerging intelligent technologies affect enterprise innovation models, organizational structures, and mechanisms for forming competitive advantages.

Overall, digital innovation is becoming an important driving force for enterprise digital transformation. The core of digital transformation for future enterprises is not simply the application of more digital technologies, but rather the continuous upgrading of enterprise innovation capabilities and value creation models through digital technology empowerment, organizational capability reshaping, data value release, and innovation ecosystem construction.

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