

Original Research Article

The impact and countermeasures of digital transformation on the economic management efficiency of small and medium sized enterprises

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Abstract: In the era of digital economy, digital transformation has become a key path to promote high-quality development of enterprises, and national policies continue to guide the deep integration of digital technology and the real economy. As an important force in the national economy, small and medium-sized enterprises play a prominent role in promoting employment and driving growth. However, they face problems such as insufficient resource investment, lack of planning, poor compatibility between technology and management, talent shortage, and weak data security in digital transformation, resulting in poor transformation effectiveness. The current market competition is becoming increasingly fierce, and traditional management models are no longer suitable for development needs. How to improve economic management efficiency through digital transformation has become an urgent problem for small and medium-sized enterprises to solve. This article is based on relevant theories, focusing on the above issues, exploring the impact of digital transformation on the management efficiency of small and medium-sized enterprises, and proposing targeted strategies to provide support for their transformation and development, with both theoretical and practical value.

Keywords: digital transformation; small and medium-sized enterprises; economic management; efficiency

1. Introduction

In the era of digital economy, digital transformation has become the core driving force for high-quality development of enterprises and an important support for China's economic transformation and upgrading. The country has introduced multiple policies to promote the deep integration of digital technology and the real economy, providing a favorable environment for enterprise transformation. As an important component of the national economy, small and medium-sized enterprises play a prominent role in promoting employment and driving economic growth. However, they face challenges in digital transformation, such as insufficient resource investment, lack of planning, poor compatibility between technology and management, talent shortage, and weak data security. Compared to large enterprises, small and medium-sized enterprises have limited scale, traditional management, higher transformation thresholds, and lower levels of proficiency. The current market competition is fierce, and the shortcomings of traditional management models are highlighted, making it difficult for small and medium-sized enterprises to adapt to the needs of the times.

2. Theoretical concepts

2.1. Core theory of small and medium sized enterprises

The definition of small and medium-sized enterprises should strictly follow the current policy standards in China, based on the core criteria of employees, operating income, and total assets. Differentiated standards should be developed in combination with the characteristics of different industries to clarify the positioning of small and medium-sized enterprises in the national economy. The economic management of small and medium-sized enterprises has distinct characteristics. Due to scale limitations, their resource reserves are relatively limited, and the supply of core elements such as funds, technology, and talent is insufficient. However, they also have the advantages of flexible management models and rapid market response. The core needs of its economic management focus on reducing operating costs, optimizing resource allocation, improving decision-making efficiency, balancing flexibility and standardization, adapting to its own development scale, breaking through management bottlenecks in the development process, and laying the foundation for digital transformation.

2.2. Theories related to digital transformation

The core connotation of digital transformation is to rely on the four core elements of data, technology,

process, and organization to systematically reconstruct the entire process of enterprise production, operation, and management decision-making, achieving efficiency improvement and value creation. Its core lies in being data-driven, integrating digital technology with business scenarios, and promoting the transformation of enterprises from traditional management models to digitalization and intelligence. Based on the development characteristics of small and medium-sized enterprises, digital transformation can be mainly divided into two modes: gradual transformation and focused transformation: gradual transformation is based on the existing foundation of the enterprise, gradually promoting technology application and process optimization; Focused transformation focuses on core business areas, concentrates resources to break through key links, adapts to the limited resources of small and medium-sized enterprises, and reduces the threshold and risks of transformation.

2.3. Management efficiency and correlation theory

Economic management efficiency is a core indicator for measuring the quality of enterprise operations, which encompasses three dimensions: operational efficiency, decision-making efficiency, and resource allocation efficiency. It is necessary to construct a quantifiable evaluation index system based on the characteristics of small and medium-sized enterprises, including cost control rate, decision response speed, and utilization rate of human and capital resources. The correlation between digital transformation and management efficiency can be supported by two theories: the theory of technological innovation holds that digital technology, as an important means of technological innovation, can break through traditional management bottlenecks, directly promote management process optimization and efficiency improvement; The theory of process reengineering emphasizes that digital transformation can break down internal information barriers within enterprises, reconstruct management processes, achieve deep integration of technology and management, and fundamentally enhance the overall efficiency of economic management in small and medium-sized enterprises.

3. The influencing factors of digital transformation on the economic management efficiency of small and medium-sized enterprises

3.1. Insufficient investment in digital transformation resources and weak guarantee system

Insufficient investment in digital transformation is the primary problem faced by small and medium-sized enterprises. The lack of guarantee for key resources such as funding, technology, and talent seriously restricts the transformation process and effectiveness. In terms of funding, small and medium-sized enterprises have limited scale and profitability, insufficient self fund reserves, narrow financing channels, high bank credit thresholds, and high financing costs, making it difficult to obtain sufficient funds for digital technology procurement, system construction, and equipment upgrades. Most enterprises can only invest a small amount of funds to try basic digital applications, and cannot achieve full process and deep level transformation. In terms of technology, small and medium-sized enterprises lack professional technology research and development teams, making it difficult for them to independently develop digital technologies and systems that meet their own needs. They can only rely on external technology suppliers, and the cost of high-quality technology services is high. Some enterprises choose low-cost, low adaptability technology products to control costs, which cannot meet actual management needs. At the same time, the shortage of talent resources further exacerbates the problem of insufficient resource guarantee. There is a lack of composite digital talents who understand technology and management, as well as grassroots employees who are proficient in operating digital equipment and using digital tools. This vicious cycle cannot provide solid resource support for digital transformation.

3.2. Lack of systematic planning for digital transformation, disconnected from enterprise strategy

Most small and medium-sized enterprises lack systematic and forward-looking planning in the process of digital transformation, and their transformation behavior is blind and passive, seriously disconnected from the overall development strategy of the enterprise, resulting in a significant reduction in transformation effectiveness. The management of enterprises lacks sufficient understanding of digital transformation, equating it with simply introducing digital devices and building digital systems. They lack a comprehensive design of transformation goals and implementation steps, often blindly following the trend and blindly following the trend of digitalization by peer companies. They fail to develop personalized transformation plans based on their own industry characteristics, development scale, and management status. The transformation plan has not been deeply integrated with the long-term development strategy and business goals of the enterprise, and digital transformation is disconnected from core business processes such as production and operation, financial management, and human resource management. The positioning of digital transformation in the enterprise

strategy has not been clearly defined, and the transformation focus has not been designed around the core needs of the enterprise. In addition, some enterprises lack flexibility in their digital transformation plans and fail to adjust them in a timely manner according to changes in the market environment, technological iteration speed, and enterprise development stage, resulting in a mismatch between transformation plans and actual development needs. Various problems arise that cannot improve management efficiency through digital transformation, and even cause resource waste, making it difficult to realize the core value of digital transformation.

3.3. The adaptability between digital technology and existing management models is poor, making it difficult to implement

The insufficient compatibility between digital technology and existing management models for small and medium-sized enterprises has led to difficulties in implementing transformation and the inability to achieve effective results. Small and medium-sized enterprises have long used traditional management models, with cumbersome management processes, obvious departmental barriers, and rigid decision-making mechanisms. The application of digital technology requires modern management models to adapt to it, and the contradiction between the two has hindered the implementation of technology. Some enterprises have introduced digital technology that is too advanced and does not match their own management level and business scale. The technical requirements exceed the existing management capabilities of the enterprise, making it difficult for employees to adapt, resulting in the inability of technology to fully play its role. When introducing digital technology, enterprises have not synchronized and optimized their existing management models, and still use traditional management processes and decision-making methods, leading to a disconnect between digital technology and management processes, resulting in the phenomenon of technology being technology and management being management. Some enterprises lack professional technical operation and maintenance teams, and after the introduction of digital systems, they are unable to conduct timely debugging, maintenance, and upgrades, making it difficult to optimize technical functions according to enterprise management needs. This further exacerbates the problem of adapting technology and management modes, leading to difficulties in implementing digital transformation, inability to improve management efficiency through technology applications, and even increasing management costs and workload.

3.4. Shortage of digital talents and weak data security, dual constraints on promoting transformation

The shortage of digital talents and weak data security management overlap, forming a dual constraint that seriously hinders the promotion of digital transformation in small and medium-sized enterprises. In terms of digital talent, the shortage problem is prominent, showing the characteristics of scarce compound talents and insufficient grassroots talents. There is a shortage of composite talents who understand digital technology, management, and industry business. These talents are more inclined towards large enterprises, while small and medium-sized enterprises have limited salary and development space, making it difficult to attract and retain such talents, resulting in a lack of professional planners and implementers for transformation, and can only stay on the surface. The current employees have low digital literacy, are accustomed to traditional work modes, have insufficient acceptance and operational ability of digital tools, and lack a systematic training system to improve employee skills, making it difficult for the introduced digital technologies to realize their value. In terms of data security management, small and medium-sized enterprises lack sufficient attention and weak systems, which have become hidden dangers for transformation. Most enterprises lack sound systems and specialized management teams, and there is a lack of control over various aspects, which can easily lead to problems such as data leakage and tampering. At the same time, enterprises lack professional protection technology and equipment, have weak capabilities to prevent network attacks and virus intrusions, and employees have weak awareness of data security and non-standard operations, further exacerbating risks. Data security issues not only cause the leakage of business secrets and economic losses for enterprises, but also undermine their confidence in transformation, restrict the deepening of transformation, and fail to achieve the goal of improving management efficiency through digital transformation.

4. Countermeasures for improving economic management efficiency of small and medium sized enterprises through digital transformation

4.1. Intensify resource investment and improve the construction of the guarantee system

Small and medium-sized enterprises should take multiple measures to increase investment and build a

sound resource guarantee. Enterprises should allocate internal funds reasonably, prioritize investment in the core links of digital transformation, actively expand financing channels, proactively connect with government special subsidies and policy loans, rely on supply chain finance and inclusive finance policies to reduce financing costs, solve funding shortages, ensure sufficient funds for technology procurement, system construction, and equipment upgrades, and promote the transformation towards full process and deep level promotion. Enterprises can establish long-term cooperation with professional technology suppliers based on their own needs, choose digital technologies and systems with strong adaptability and high cost-effectiveness, gradually cultivate internal technical backbone teams, enhance technical application and simple research and development capabilities, and avoid blindly purchasing low adaptability products. Enterprises should optimize their talent attraction and cultivation mechanisms, appropriately increase the salary and benefits of digital talents, and broaden their development space to attract versatile digital talents to join. At the same time, strengthen the training of existing employees, establish a hierarchical and classified digital training system, enhance the digital operation ability of grassroots employees, solve the talent shortage dilemma, break the vicious cycle, and provide solid resource support for digital transformation.

4.2. Develop a systematic transformation plan to promote deep integration with corporate strategy

Establish forward-looking thinking, formulate scientific and reasonable transformation plans, and promote the deep integration of transformation and corporate strategy. The management of enterprises should enhance their understanding of digital transformation, clarify that digital transformation is not simply the introduction of technology, but involves systematic changes in the entire process of production, management, and operation. Based on the characteristics of their own industry, development scale, and management status, they should develop personalized and implementable transformation plans, clarify transformation goals, core paths, and implementation steps, and avoid following the trend of transformation. Integrate digital transformation planning into the long-term development strategy and business objectives of the enterprise, clarify the core positioning of digital transformation in the enterprise strategy, focus on core business processes such as production and operation, financial management, and human resource management, determine transformation priorities, promote deep integration between digital transformation and core business, and avoid disconnection between transformation and business. Establish a flexible planning and adjustment mechanism, closely monitor changes in the market environment, the speed of technological iteration, and the stage of enterprise development, timely optimize and improve transformation planning, abandon the misconceptions of emphasizing construction over application, emphasizing form over effectiveness, ensure that transformation planning meets the actual needs of the enterprise, fully leverage the core value of digital transformation, and promote management efficiency improvement through scientific planning.

4.3. Optimize management mode, enhance the adaptability and implementation effect of digital technology

Synchronize and optimize management mode, promote deep integration of technology and management, and enhance the effectiveness of transformation implementation. Enterprises should base themselves on their own management level and business scale, scientifically choose suitable digital technologies, avoid introducing complex systems that are too advanced and beyond their own capabilities, and prioritize digital tools and systems that are easy to operate and have strong adaptability to reduce the difficulty of implementation. At the same time as introducing digital technology, we will simultaneously optimize traditional management models, simplify cumbersome processes, break down departmental barriers and optimize decision-making mechanisms, establish a modern management system that is compatible with digital technology, eliminate the disconnect between technology and management, and promote the deep integration of technology and management processes. Cultivate a professional technical operation and maintenance team responsible for debugging, maintaining, and upgrading digital systems, continuously optimizing technical functions according to enterprise management needs, ensuring stable system operation and adaptation to enterprise development. Strengthen employee guidance, enhance employees' acceptance and operational ability of digital technology through case studies and practical training, guide employees to actively adapt to digital management mode, solve talent adaptation problems in the process of technology implementation, reduce implementation costs, ensure the full play of digital technology, and improve enterprise economic management efficiency through collaborative optimization of technology and management.

4.4. Strengthen talent cultivation and data security management, and solve the problem of dual constraints

Small and medium-sized enterprises are taking a dual approach, strengthening talent cultivation and data security management, to safeguard digital transformation. Optimize the talent attraction mechanism, introduce targeted incentive policies, increase the salary and benefits of composite digital talents, and broaden their development space, attract composite talents who understand technology, management, and business to join, build a professional transformation planning, implementation, and management team, and promote the transformation to a deeper level. Establish a systematic digital training system, carry out hierarchical and classified training for grassroots employees, focus on improving employees' digital operation ability and application level, guide employees to break away from traditional work modes, proficiently use digital tools, and fully realize the value of technology. Enterprises need to increase their attention, establish a sound data security management system, form a dedicated data security management team, strengthen control over the entire process of data collection, storage, use, and transmission, standardize data management processes, and prevent risks such as data leakage and tampering. At the same time, invest an appropriate amount of funds to equip professional data security protection technology and equipment, enhance the ability to prevent network attacks and virus intrusions, strengthen employee data security awareness training, standardize employee operating behavior, and eliminate security risks caused by non-standard operations. Through the collaborative efforts of talent cultivation and data security management, we aim to break through the dual constraints, enhance the confidence of enterprises in digital transformation, promote continuous transformation, and achieve the goal of improving management efficiency.

5. Conclusion

In summary, the impact and countermeasures of digital transformation on the economic management efficiency of small and medium-sized enterprises have been summarized, and the core theories related to small and medium-sized enterprises, digital transformation, and management efficiency have been sorted out. Analysis has found that the digital transformation of small and medium-sized enterprises faces problems such as insufficient resource investment, lack of planning, poor compatibility between technology and management, talent shortage, and weak data security, which hinder the improvement of management efficiency. This article proposes targeted strategies for this, including increasing resource investment, developing systematic transformation plans, optimizing management models, strengthening talent cultivation and data security management, helping small and medium-sized enterprises solve development difficulties through digital transformation, improving economic management efficiency, and achieving sustainable development.

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