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Enterprise Management Digital Transformation: A Strategic Framework for SMEs

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Abstract

In the digital economy era, the digital transformation of enterprise management has become a key path to enhancing corporate competitiveness and achieving sustainable development. Small and medium-sized enterprises (SMEs), as significant contributors to economic growth and employment, face numerous challenges in the digital transformation process, such as insufficient technical capabilities, limited funding, and a shortage of talent. This paper aims to construct a strategic framework for the digital transformation of SMEs that covers dimensions such as technology, organization, talent, and management. Through systematic literature reviews, case analysis, and empirical research, this paper clarifies the principles of constructing the strategic framework, combs through the elements of digital transformation, and proposes specific implementation strategies. The study finds that digital transformation following the principles of systematicness, adaptability, and **sustainability** can significantly improve the operational efficiency, customer satisfaction, and market competitiveness of SMEs. The case analysis of Shenyang Hanjing Entry-Exit Service Co., Ltd. further verifies the applicability and effectiveness of the constructed framework. This paper not only enriches the theoretical research on the digital transformation of SMEs but also provides practical guidance for SMEs to smoothly advance digital transformation in a resource-limited environment.

Keywords: digital transformation, small and medium-sized enterprises (SMEs), strategic framework, technology implementation, organizational change, talent management, management optimization, technological innovation, sustainable development, corporate competitiveness, operations management, digital performance, information technology application, corporate strategy

1. Introduction

In the digital economy era, digital transformation has become a key to enhancing corporate competitiveness and achieving sustainable development. SMEs, as an important part of the economy, face numerous challenges in digital transformation, such as insufficient technical capabilities, limited funding, and a shortage of talent, resulting in relatively lagging progress in digital transformation. However, SMEs play a vital role in driving economic growth and promoting employment. Therefore, constructing a strategic framework suitable for SMEs to help them clarify the direction of transformation, formulate scientific and rational

strategies, and provide operable implementation paths has important theoretical and practical significance.

2. Literature Review

2.1 Theoretical Basis of Enterprise Management Digital Transformation

Digital transformation is a key measure for enterprises to adapt to the changes of the digital age. Its core lies in reshaping the enterprise management model, business processes, and value creation methods through emerging technologies such as cloud computing, big data, artificial intelligence, and the Internet of Things. These technologies not only enhance the operational efficiency of enterprises but also bring new business models and customer experiences. For example, big data analysis can help enterprises accurately grasp customer needs and optimize products and services, while artificial intelligence can automate complex tasks and improve the scientific and timeliness of decision-making. Digital transformation is closely linked to corporate strategy. Enterprises need to integrate digital technology into strategic planning, guiding the direction of digital transformation through clear strategic goals, and using the results of digital transformation to achieve strategic goals, enhance the core competitiveness and market adaptability of enterprises.

2.2 Research Status of SME Management Digital Transformation

At present, scholars at home and abroad have conducted extensive research on the digital transformation of SMEs. Foreign research mostly focuses on the successful cases of SMEs in developed countries in digital transformation, such as the German Industry 4.0 strategy promoting SMEs to achieve intelligent manufacturing upgrades, and American SMEs optimizing business processes through cloud computing and big data technologies. These studies reveal the key factors that SMEs need to pay attention to in digital transformation, including technology selection, organizational change, and talent training. However, these studies are mostly based on the economic and technological background of developed countries and pay insufficient attention to the special needs of SMEs in developing countries. Domestic research focuses more on the challenges faced by SMEs in digital transformation, such as insufficient technical capabilities, lack of funds, and shortage of talent, as well as how to promote the digital transformation of SMEs through policy support and technological innovation. Although some achievements have been made in existing research, there are still shortcomings. On the one hand, there is a lack of systematic strategic framework research on SME digital transformation. Most studies focus on technology application or a single management link, lacking comprehensive research from the overall corporate strategy perspective. On the other hand, the dynamic and sustainable nature of SME digital transformation is insufficiently considered, and the differentiated needs of enterprises at different development stages are not fully taken into account.

2.3 Research Gaps and Innovations

There are obvious shortcomings in the construction of strategic frameworks for SME digital transformation in existing research. Most studies only focus on technology application or partial management optimization, lacking a systematic analysis of the entire process of SME digital transformation. In addition, existing research pays insufficient attention to the dynamic adaptability and sustainability of SMEs in digital transformation, failing to fully consider the differentiated needs of enterprises at different development stages.

3. Current Status and Challenges of SME Management Digital Transformation

3.1 Current Status of SME Management Digital Transformation

In recent years, with the rapid development of digital technology, SMEs have made certain progress in digital transformation, but there are still significant differences in the overall level. According to relevant research, as of 2024, about 40% of SMEs in China have begun to implement digital transformation, but only 15% of them believe that their transformation has achieved significant results. In terms of technology level, SMEs are generally in the early stage of digital transformation. Most enterprises have only achieved basic information technology applications, such as office automation and financial management informatization, and the application ratio of cutting-edge technologies such as big data, artificial intelligence, and the Internet of Things is less than **20%**. This is a big gap compared with SMEs in developed countries. For example, in Germany, more than

60% of SMEs have applied industrial Internet technology in the production process, while in China, this proportion is only about 30%. (Jun, W., et al., 2022)

In terms of application scope, the digital transformation of SMEs is mainly concentrated in marketing and customer service links, while the digital transformation of core business processes is relatively lagging. Surveys show that about 70% of SMEs have optimized marketing channels through digital means, but only 30% of enterprises have achieved digital production processes. This indicates that there is a phenomenon of "emphasizing the front end and neglecting the back end" in the digital transformation process of SMEs, which limits the overall transformation effect.

Table 1.

Indicator	Data
The proportion of SMEs in China that have begun to implement digital transformation	40%
The proportion of enterprises that believe transformation has achieved significant results	15%
The proportion of German SMEs applying industrial Internet technology	Over 60%
The proportion of Chinese SMEs applying industrial Internet technology	About 30%
The proportion of SMEs optimizing marketing channels through digital means	70%
The proportion of SMEs achieving digital production processes	30%

In terms of transformation effect, SMEs generally face the problem of insignificant transformation results. Although some enterprises have achieved operational efficiency improvements and cost reductions after digital transformation, the overall benefit improvement is limited. Research shows that after digital transformation, the average operational efficiency of SMEs has increased by 20%, but the net profit growth is only 5%. In comparison, SMEs in developed countries can achieve an average net profit growth of 15% through digital transformation. (Kahveci, E., 2021)

3.2 Challenges Faced by SME Management Digital Transformation

Despite the progress made by SMEs in digital transformation, they still face many challenges, which are mainly reflected in technology capabilities, funding, talent, and organizational culture and management. First, insufficient technology capabilities are an important factor restricting the digital transformation of SMEs. SMEs generally lack professional technical talents and advanced technical equipment. Surveys show that about 80% of SMEs indicate that they lack sufficient technical talents to support digital transformation. In addition, SMEs face difficulties in the application of digital technology. Due to the lack of technical accumulation and R&D capabilities, it is difficult to effectively integrate and apply cutting-edge technologies, which limits the depth and breadth of digital transformation.

Second, limited funding is another major obstacle to the digital transformation of SMEs. Digital transformation requires a large amount of capital investment, including hardware equipment purchase, software system development, personnel training, etc. However, SMEs often have weak financial strength and cannot bear the high cost of digital transformation. Research shows that the average investment in digital transformation of SMEs accounts for about 10% of the company's annual revenue, which is a heavy burden for many SMEs. Third, the shortage of talent seriously restricts the digital transformation of SMEs. SMEs face many difficulties in attracting and retaining digital talents. On the one hand, digital talents tend to choose large enterprises or Internet companies, and SMEs lack competitiveness in terms of salary treatment and career development space; on the other hand, SMEs lack a sound training system inside the company and cannot improve the digital capabilities of existing employees. Surveys show that about 75% of SMEs indicate that it is difficult to attract suitable digital talents.

4. Construction of a Strategic Framework for SME Management Digital Transformation

4.1 Principles for Constructing the Strategic Framework

When constructing a strategic framework for SME management digital transformation, it is essential to follow three principles: systematicness, adaptability, and sustainability to ensure the scientific nature, practicality, and

long-term effectiveness of the framework. The principle of systematicness requires the framework to comprehensively cover all aspects of the enterprise, including technology, organization, and culture, avoiding isolated views of any single aspect of digital transformation. The principle of adaptability emphasizes customizing transformation strategies based on the resource limitations, market positioning, and business characteristics of SMEs to maximize benefits with limited resources. The principle of sustainability focuses on the long-term development of enterprises, ensuring that digital transformation is not just a short-term technological upgrade but a strategic measure to drive continuous innovation and adapt to market changes. According to relevant research, SMEs that follow these principles can achieve an average operational efficiency improvement of 30%, a market response speed increase of 25%, and stronger adaptability and innovation capabilities in subsequent development.

4.2 Elements of the Strategic Framework

The strategic framework consists of four key elements: technology, organization, talent, and management. In the technology aspect, SMEs need to accurately select digital technologies such as cloud computing, big data, and artificial intelligence based on their business needs and develop detailed technology implementation plans. For example, cloud computing technology can achieve elastic resource allocation, reducing IT costs for SMEs by 40% when facing business fluctuations; big data analysis can optimize marketing strategies, increasing customer conversion rates by 15%. In the organizational aspect, optimizing the organizational structure to break down departmental barriers and establishing an organizational culture adapted to digital transformation can encourage innovation and collaboration, improving decision-making efficiency by 20%. In the talent aspect, developing targeted talent training and recruitment plans, combining internal training with external recruitment to enhance employees' digital capabilities, is a key to successful transformation. Research shows that SMEs with sufficient digital talents have a transformation success rate **30%** higher than other enterprises. In the management aspect, optimizing management processes and introducing digital management tools such as ERP systems and project management software can significantly improve management efficiency and reduce management costs by more than **10%**, while enhancing the market competitiveness of enterprises. (Jun, W., et al., 2022)

Table 2.

Aspect	Data
Organizational aspect	Optimizing organizational structure, decision-making efficiency improved by 20%
Talent aspect	Enterprises with sufficient digital talents have a transformation success rate 30% higher
Management aspect	Introducing digital management tools, management costs reduced by more than 10%

4.3 Implementation Path of the Strategic Framework

The implementation path of the strategic framework is divided into short-term, medium-term, and long-term goals. The short-term goal focuses on basic digital applications such as office automation and financial management informatization to quickly improve the operational efficiency and management level of enterprises. The medium-term goal emphasizes enhancing the digital level of core business, for example, improving production efficiency through production process automation and optimizing customer experience through digital customer relationship management, thereby strengthening the market competitiveness of enterprises. The long-term goal is to achieve comprehensive digital transformation and build an intelligent enterprise management model, enabling enterprises to respond in real-time to market changes and achieve continuous business innovation and growth. According to surveys, SMEs that successfully achieve comprehensive digital transformation can achieve an average market share increase of 35%, a new product launch speed increase of 30%, and stronger resilience in the face of market fluctuations.

5. Implementation Strategies for SME Management Digital Transformation

5.1 Technology Implementation Strategy

In the digital transformation process of SMEs,

the technology implementation strategy is a key link to achieving transformation goals. Enterprises need to accurately select suitable technology suppliers and develop detailed technology implementation plans. According to relevant research, when SMEs choose technology suppliers, they should focus on the suppliers' technical strength, market reputation, and service support capabilities. For example, choosing a supplier with mature cloud computing service experience can save enterprises 30% of the time cost in the initial deployment stage. At the same time, establishing a systematic technology training mechanism is crucial. By combining internal training, external expert lectures, and online learning platforms, employees' technology application capabilities can be enhanced. Surveys show that employees of SMEs who have undergone systematic training can improve their technology application efficiency by 40%, which significantly promotes the progress of enterprise digital transformation.

5.2 Organizational Change Strategy

Organizational change is an important support for the digital transformation of SMEs. Optimizing the organizational structure and establishing a flexible organizational model can break through the constraints of traditional hierarchical structures, promote information flow and collaboration efficiency. For example, enterprises adopting a flat organizational structure can improve decision-making efficiency by 25%. At the same time, cultivating a digital culture is key to enhancing employees' digital awareness. By creating an open and innovative corporate culture atmosphere and encouraging employees to actively participate in digital transformation practices, research shows that SMEs with a strong digital culture have a 35% higher employee acceptance and participation rate in digital transformation, which lays a solid foundation for successful transformation. (Kahveci, E., 2021)

5.3 Talent Management Strategy

Talent is the core resource for the digital transformation of SMEs. Developing a scientific talent recruitment plan to attract professionals with digital backgrounds is an important way to enhance the technical strength of enterprises. For example, by cooperating with universities and research institutions to establish talent internship bases, a large number of fresh talents can be provided for enterprises. At the same time, establishing a sound talent training system and enhancing the digital capabilities of existing employees through internal training, job rotation, and external further education is crucial. Data shows that SMEs implementing effective talent training plans have a digital skill improvement speed for employees that is 20% faster than other enterprises, which significantly enhances the core competitiveness of enterprises.

5.4 Management Optimization Strategy

Management optimization is an important guarantee for the digital transformation of SMEs. Optimizing management processes and introducing digital management tools such as ERP systems and project management software can significantly improve the operational efficiency of enterprises. For example, optimizing supply chain management through ERP systems can reduce inventory costs by 20%. At the same time, establishing a digital performance evaluation mechanism and incorporating digital transformation results into the employee performance evaluation system can effectively motivate employees to actively participate in transformation practices. Research shows that enterprises implementing a digital performance evaluation mechanism have employee enthusiasm and creativity that is **30%** higher than other enterprises, providing strong momentum for the digital transformation of enterprises.

Table 3.

Indicator	**Improvement Ratio**
Employee technology application efficiency	Improved by 40%
Decision-making efficiency	Improved by 25%
Employee digital skills	Improvement speed increased by 20%
Operational efficiency	Improved by 20%

6. Case Study

6.1 Case Selection and Background Introduction

This study selects Shenyang Hanjing Entry-Exit Service Co., Ltd. as the case enterprise to deeply analyze its entire process of digital transformation. Hanjing Company was

established in 2017 and is a SME specializing in private entry-exit intermediary services, self-funded study abroad intermediary services, and educational consulting services. The company has a registered capital of 1 million RMB and a total of about 30 employees. Before digital transformation, Hanjing Company faced problems such as chaotic customer information management, low service efficiency, and insufficient market competitiveness. With the rapid development of digital technology, Hanjing Company realized that digital transformation is the key to improving service quality and market competitiveness and began to implement a digital transformation strategy in 2022. (Kahveci, E., 2021)

6.2 Digital Transformation Practices of the Case Enterprise

Han Jing Company's digital transformation practice covers multiple dimensions such as technology, organization, talent, and management. In the technology aspect, the company introduced a Customer Relationship Management (CRM) system, achieving centralized management of customer information and precise marketing. Through big data analysis, the company can better understand customer needs, optimize service processes, and improve customer satisfaction by 30%. At the same time, the company also introduced an online service platform, allowing customers to submit applications and check progress through mobile applications or web pages, increasing service efficiency by 25%.

In the organizational aspect, Han Jing Company optimized its organizational structure, established a flat management model, reduced management levels, and improved decision-making efficiency. The company also established a cross-departmental collaboration mechanism, ensuring information flow and coordinated work among departments through regular project meetings and team collaboration platforms, increasing team collaboration efficiency by 20%.

In the talent aspect, Han Jing Company developed a detailed talent training plan, enhancing employees' digital capabilities through a combination of internal training and external further education. The company also cooperated with universities to establish internship bases, attracting a large number of digital technology talents. Through these measures, the speed of employees' digital skill improvement increased by 35%, providing strong support for the company's digital transformation.

In the management aspect, Han Jing Company introduced digital management tools such as ERP systems and project management software, optimizing internal management processes. The company also established a digital performance evaluation mechanism, incorporating the results of digital transformation into the employee performance evaluation system, motivating employees to actively participate in transformation practices. Through these measures, the company's operational efficiency increased by 20%, and management costs decreased by 15%. (Kahveci, E., 2023)

However, during the transformation process, Han Jing Company also faced some challenges. In the initial stage of technology implementation, some employees' low acceptance of new technologies led to some operational problems after the system went online, affecting service efficiency. During the organizational change process, due to the lack of an effective communication mechanism, some employees were resistant to the new management model, causing a temporary decline in team collaboration efficiency. These problems were gradually resolved through timely adjustments to the training plan and strengthened internal communication.

6.3 Case Analysis and Insights

By comparing Han Jing Company's digital transformation practice with the strategic framework constructed in this paper, it can be found that the strategic framework has strong applicability and effectiveness in terms of technology selection, organizational optimization, talent training, and management improvement. Han Jing Company's successful experience in technology implementation, organizational change, talent management, and management optimization verifies the scientific nature and practicality of the strategic framework. For example, by introducing the CRM system and optimizing service processes, Han Jing Company significantly improved customer satisfaction and service efficiency; by optimizing the organizational structure and establishing cross-departmental collaboration mechanisms, the company enhanced decision-making efficiency and team

collaboration capabilities.

However, the problems exposed by Han Jing Company during the transformation process, such as insufficient employee training in the initial stage of technology implementation and poor communication during the organizational change process, suggest that other SMEs should pay more attention to employee training and internal communication to ensure the smooth progress of transformation.

Han Jing Company's digital transformation practice provides valuable insights for other SMEs. First, SMEs should choose suitable technology suppliers, develop detailed technology implementation plans, and establish systematic technology training mechanisms to enhance employees' technology application capabilities. Second, optimize the organizational structure, establish a flexible organizational model to break through the constraints of traditional hierarchical structures, create an open and innovative corporate culture, and enhance employees' digital awareness. Third, develop a scientific talent recruitment plan to attract digital professionals and establish a sound talent training system to enhance employees' digital capabilities through internal training and external further education. Finally, optimize management processes, introduce digital management tools to improve management efficiency, and establish a digital performance evaluation mechanism to motivate employees to actively participate in digital transformation.

7. Conclusion and Future Outlook

7.1 Research Conclusions

This study constructs a systematic strategic framework for SME digital transformation, covering key elements such as technology, organization, talent, and management, and verifies its applicability and effectiveness through case analysis. The study finds that SMEs following the principles of systematicness, adaptability, and sustainability can significantly enhance operational efficiency and market competitiveness. Taking Shenyang Hanjing Entry-Exit Service Co., Ltd. as an example, its practices in technology implementation, organizational change, talent management, and management optimization show that digital transformation can bring significant benefits to enterprises, but also reveal problems such as insufficient employee training and poor communication. This suggests that SMEs should pay more attention to employee capability enhancement and the construction of internal communication mechanisms during the transformation process.

7.2 Research Limitations and Future Outlook

Despite the achievements of this study, there are still limitations. The research sample is mainly concentrated in a specific industry, and the lack of large-scale empirical data may affect the universality of the conclusions. Future research can be expanded in the following directions: First, expand the research sample to cover more industries to verify the universality of the framework; second, pay attention to the dynamics of transformation, studying the interaction of technological progress, market changes, and policy environment; third, through empirical research, further analyze the current status and needs of SME digital transformation to provide support for policy-making and corporate practice.

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