

Research on the Digital Transformation of Small and Medium sized Enterprises in the Context of Digital Economy

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Abstract: *With the rapid development of informatization, the global economy is gradually transitioning from traditional industrial economy to digital economy. In this context, promoting digital transformation has provided significant assistance for the development of enterprises. Currently, many small and medium-sized enterprises are also actively promoting digitalization, but still face some problems. The article briefly analyzes the motives, current situation, and problems faced by small and medium-sized enterprises in their digital transformation, and proposes corresponding countermeasures, hoping to provide reference and guidance for some enterprises.*

Keywords: Digital transformation; Digital economy; Small and medium-sized enterprises.

1. Introduction

The 14th Five Year Plan provides important policy support for accelerating the construction of the digital economy and promoting its development. According to the "Research Report on the Development of China's Digital Economy in 2023" released by the China Academy of Information and Communications Technology, the scale of China's digital economy has reached 50.2 trillion yuan in 2022, exceeding the GDP growth rate for 11 consecutive years, indicating that China's digital economy is in a thriving stage and is a new trend facing the transformation and development of enterprises. The development of the digital economy has also provided more abundant data resources for small and medium-sized enterprises, which can transform and upgrade traditional industries into emerging industries through digitization, intelligence, and networking. Breaking down industry barriers through digital technology is an important opportunity for small and medium-sized enterprises to transform and upgrade. However, due to the small capital scale, relatively insufficient production technology, talent shortage, and uneven management level of small and medium-sized enterprises, it is difficult to seize opportunities reasonably and face various problems in the process of digital transformation. Therefore, how small and medium-sized enterprises can respond to problems and provide solutions has become a current issue that needs to be explored.

2. The Motivation for Digital Transformation of Small and Medium sized Enterprises

2.1 External Factors

The promotion of policies, the development of high-tech, the transformation of consumption upgrading, and the increasingly fierce competitive environment are driving the digital transformation of small and medium-sized enterprises. The 19th National Congress of the Communist Party of China proposed to accelerate the construction of a strong cyber nation, a digital China, and a smart society. The country has

clearly defined the need for a government, enterprises, and individuals oriented towards the digital age in the future. At present, digital transformation is the trend of the current market, and technological innovation is accelerating the digitization of the world economy, driving economic recovery through digital strategies. In addition, the State Council has proposed digital transformation and jointly launched digital transformation actions in conjunction with multiple government reports, while providing a large number of preferential policies and digital transformation subsidies to accelerate the digital transformation of various industries. At the same time, in recent years, emerging Internet technologies such as big data, cloud computing and artificial intelligence are developing at a high speed. The continuous implementation of high-tech can better help enterprises deal with data resources and enable them to take the lead in the rapidly changing market. The consumer market in our country is gradually changing, and the upgrading of consumption requires consumers to constantly change, their consumption level is constantly improving, and their consumption concepts are constantly changing. Digital technology can extract and analyze data faster, helping businesses better grasp market trends and consumer preferences. In addition, the intensification of the competitive environment also drives small and medium-sized enterprises to use digital transformation to enhance their competitive strength. Overall, these external factors are driving small and medium-sized enterprises to seize new situations and opportunities in order to promote sustainable development.

2.2 Internal Factors

Digital transformation can broaden the market channels of enterprises, reduce financing costs, enhance innovation capabilities, and ultimately improve the core competitiveness of enterprises. Firstly, for small and medium-sized enterprises, due to their small capital scale, limited brand influence, relatively dispersed customers, and insufficient promotion of market development and channel construction, this will affect their business performance and development capabilities. Therefore, enterprises need to leverage digital technologies

such as big data and intelligent networking to establish more efficient and broad market channels, in order to increase market share and enhance their advantages in the industry. Secondly, compared to large enterprises, small and medium-sized enterprises have narrower financing channels, fewer financing quantities, and higher costs. Digital transformation can reduce the financing costs of enterprises, optimize their investment and financing behavior, improve their financing efficiency, help small and medium-sized enterprises achieve better sustainable development, and avoid bankruptcy crises caused by financing pressure. Finally, digital transformation utilizes digital technology to share and connect information and data across departments, reducing information asymmetry between enterprises and achieving cross departmental and cross business communication and collaboration, making the entire enterprise more cohesive. Innovation is the catalyst for the development of enterprises. For small and medium-sized enterprises, innovation can help them find vitality and promote sustainable development. Digital transformation involves multiple aspects of enterprises. By combining data monitoring and analysis with traditional management models, it empowers enterprises to achieve digital innovation at the business and strategic levels, and enhances their value. In summary, in order for small and medium-sized enterprises to expand their development scale and achieve cost reduction and efficiency improvement, they need to accelerate the process of digital transformation.

3. Basic Status of Digital Transformation in Small and Medium sized Enterprises

3.1 Low Degree of Digital Transformation Application in Small and Medium-sized Enterprises

According to the "Digital Transformation Development Report for Small and Medium sized Enterprises" released in 2022, China's small and medium-sized enterprises are currently at a crossroads of digital transformation. However, according to surveys, more than 80% of small and medium-sized enterprises in China are currently in the initial stage of digital transformation, and less than 10% of them have deeply applied digital technology. Although many enterprises have initiated digital transformation, they have only focused more on some basic areas, such as basic office work, and the degree of digital application for core business and key processes is still relatively low. At the same time, for small and medium-sized enterprises that are just beginning to enter digital transformation, digital marketing is the first choice for most enterprises and the most commonly used strategy for implementing digital transformation. Its application in other aspects of digitalization is insufficient. Overall, the degree of digital transformation and application of small and medium-sized enterprises in China is low, and the progress is relatively slow.

3.2 The Focus of Digital Transformation Technology for Small and Medium-sized Enterprises Varies

At the technical level, enterprises rely on data as the foundation and computers as the platform support, making big data technology the most widely used digital technology for small and medium-sized enterprises. Digital technology can achieve cost reduction and efficiency improvement, form

internal and external connectivity, achieve comprehensive transformation and upgrading in production and other aspects, and enhance the overall strength of enterprises. However, for different industries, there are personalized differences in the desired effects. The retail industry pays more attention to the constantly changing needs of customers and diversified supply across all channels. Therefore, in addition to big data technology, enterprises will also attach importance to supply chain digitization and Internet of Things technology to achieve a consumer centered business model. The manufacturing industry places greater emphasis on the quality and service of enterprises, as well as research and development production capabilities. Therefore, enterprises pay more attention to cloud computing and digital twins to improve production efficiency and product quality. The financial and insurance industry places more emphasis on predictive analysis and processing of information data, thus placing greater emphasis on artificial intelligence and IoT technology to improve data reliability and make better decisions. Overall, small and medium-sized enterprises in different industries have varying levels of emphasis on the application of digital technology in digital transformation.

4. The Problems Faced by Small and Medium-sized Enterprises in Digital Transformation

4.1 Insufficient Understanding of Digital Transformation among Management of Small and Medium-sized Enterprises

The development of the digital economy has penetrated into various large, medium, and small enterprises across the country, and many enterprises have begun to implement digital transformation. However, there are still a considerable number of enterprises that do not have a deep understanding of digital transformation, only superficially understanding the value that digital transformation brings to enterprises from the root, and even some enterprises are unwilling to carry out digital transformation. However, some companies only blindly imitate large enterprises that have successfully transformed or mechanically participate under the promotion of policies, without planning where and how to transform. Therefore, for such enterprises, it seems that they are already actively engaged in digital transformation, but only on the surface. In addition, as the backbone of the enterprise, the management's awareness plays a significant role in promoting the digital transformation of the enterprise. Many management teams of small and medium-sized enterprises lack digital awareness and thinking, and their management level is limited. They believe that the transformation is only a simple upgrade of traditional software and systems using digital technology, or the use of intelligent software for online business, ignoring the effective integration of digital technology with various internal business processes and external channels of the enterprise. However, digital transformation is not solely the responsibility of management, but requires the participation of all employees from top to bottom. Corporate culture is the core of the enterprise, and changes in culture will inevitably drive the transformation of digital transformation. However, small and medium-sized enterprises attach less importance to the construction of corporate culture and lack systematic and distinctive features.

4.2 The cost of Transformation for Small and Medium-sized Enterprises is High, and There is Significant Financial Pressure

Digital transformation will inevitably invest a large amount of funds. On the one hand, in the early stage of transformation, enterprises need to purchase advanced intelligent equipment, customize software, and build digital infrastructure platforms and systems. On the other hand, enterprises need to bear the subsequent expenses of system debugging, employee training, data security prevention, and equipment maintenance during the transformation process. However, small and medium-sized enterprises themselves have certain disadvantages in terms of infrastructure, network and other resource construction. Their weak ability to integrate information and data increases the development cost of service providers for their digital transformation plans. At the same time, most small and medium-sized enterprises have low credit ratings and relatively weak financing capabilities, making it difficult to obtain more external support. More funds of enterprises are used for business activities such as raw material procurement and market development. If a large amount of funds are invested in the early stage of digital transformation, coupled with the difficulty of short-term returns from digital transformation and the impact of multiple factors such as uncertain domestic and international economic environment, small and medium-sized enterprises face higher risks and excessive financial pressure, which makes it difficult to meet the investment requirements of digital transformation and hinders enterprise transformation.

4.3 Shortage of Talent in Small and Medium-sized Enterprises

Digital transformation not only requires professional equipment, but also professional talents. Enterprises not only need to introduce professional technical personnel and management personnel who can provide digital transformation strategies to the enterprise, but also need composite talents with digital management thinking, practical application skills, and adaptability to enterprise strategies. At present, digital talent is already lacking in the entire market, and even if talent is hired, it still needs to be continuously cultivated. For small and medium-sized enterprises, it is even more difficult to invest more funds in it, so it is impossible to attract and retain talent through funding. Enterprises will increasingly choose to train their existing employees, providing them with an understanding and practice of digital skills through internal and external training, in order to adapt to new digital work and correctly apply digital technology, and obtain human resources that support digital transformation. Compared to large enterprises, small and medium-sized enterprises have fewer employees and indeed lack digital talent. The shortage of talent can also make it difficult for enterprises to find a suitable digital transformation direction for their own development, increasing the difficulty of transformation.

4.4 Lack of Digital Technology in Small and Medium-sized Enterprises and Exposure Of Digital Security

Digital transformation requires the combination of various

emerging technologies and the integration of digital resources with specialized equipment. By using digital technology to collect, organize, and analyze data, useful information can be obtained to optimize business processes and management models. Therefore, this transformation has strong technical requirements and a high threshold. At present, small and medium-sized enterprises not only lack a deep understanding of digital professional technology, but also have limited resources and capabilities, inadequate digital infrastructure construction, and insufficient digital technology development capabilities. Due to the continuous updating and iteration of digital technology in the market, when changes accelerate, enterprises may find it difficult to provide timely solutions and lack feasible solutions to address the technical problems in the digital transformation process. In addition, due to the increased accumulation of enterprise information and data in the process of digital transformation, which relies more on the network, it is easy to cause information leakage and network security threats, affecting the company's reputation. Therefore, digital security issues are gradually exposed. Small and medium-sized enterprises do not have many measures in terms of security prevention to resist information leakage and virus invasion. As the degree of digital transformation becomes stronger, data accumulation will also increase, and digital risks will also become higher, which will increase the difficulty of enterprise digital transformation.

5. Measures for Digital Transformation of Small and Medium-sized Enterprises

5.1 Enhance Management's Awareness of Digital Transformation

Digital transformation is the trend of enterprise development. In the process of digital transformation of small and medium-sized enterprises, firstly, management needs to have a deeper understanding of digitalization, pay more attention to the current trends of digital economy development, digital transformation models, and the significance that digital technology will bring to the future development of enterprises. Secondly, the management needs to learn independently, engage in learning and communication with leading companies in the same industry or even other industries, gain a greater understanding of digitalization, and combine it with the company's own development to find suitable digital transformation strategies for the enterprise. At the same time, the government should also help small and medium-sized enterprises break the traditional concept of digitization. By building information platforms, more people can understand the value brought by digitization and showcase successful digital transformation enterprises as case studies. Finally, it is not only necessary to raise the awareness of management, but also to make all employees aware of the significance of digital transformation, use corporate culture to guide employees to generate a sense of identity and commitment, and achieve organizational flattening through cross-border, cooperative, and innovative approaches.

5.2 Increase Policy Support for Small and Medium-sized Enterprises

The promotion of digital transformation cannot be separated from policy support. Small and medium-sized enterprises

have relatively weak funds and need to invest a large amount of costs in digital transformation, leading to increased financial pressure on enterprises. Therefore, the government should increase policy subsidies for the digital transformation process of small and medium-sized enterprises, and can incentivize enterprise transformation by establishing special funds. In addition, due to the low credit rating and financing difficulties of small and medium-sized enterprises, the government can help improve the digital financing environment for enterprises, provide more reasonable credit ratings and a certain degree of credit guarantees for external financial institutions, lower financing thresholds, and avoid interruptions in digital transformation caused by financing difficulties. At the same time, due to high development costs and complex construction methods, small and medium-sized enterprises lack professional digital system solution service providers. Therefore, the government can work together with large enterprises to connect mature service providers with small and medium-sized enterprises through network platforms, providing modular solutions for enterprises.

5.3 Strengthen the Training of Digital Technology Talents

The shortage of digital talents has become a difficult link in the digital transformation of small and medium-sized enterprises. Due to the lack of funds, it is difficult to attract compound talents in the digital field. Therefore, companies need to strengthen the training of internal employees, including the application of digital tools, theoretical knowledge and practical operations of data analysis, etc. Companies can also invite professionals to give lectures to help management and employees understand the latest developments in digitalization, and provide opportunities for employees to learn and develop. In addition, companies can establish digital communication platforms for employees to share and exchange ideas, while also helping companies identify talented and interested employees in the digital field for targeted training. A sharing mechanism can also be established to share technology with research institutes. At the government level, schools can carry out courses related to digitalization, collaborate with schools and enterprises to practice, and cultivate digital talents.

5.4 Promote Digital Technology and Enhance Digital Security

Digital technology helps businesses manage their data more efficiently, collect, organize, and analyze it, and optimize processes. However, the digital technology development capabilities of small and medium-sized enterprises are limited, and their investment in digital technology is also limited. Therefore, enterprises need to choose carefully and gradually, and select suitable digital technologies based on industry characteristics and business models. Digital transformation will inevitably bring about digital security issues, so enterprises need to strengthen the protection of enterprise information security and privacy, establish security prevention platforms, partition data information processing, provide more layers of protection for more important data, or obtain more secure management systems through cooperation. At the same time, the government should also increase regulation of data to provide a safer environment for the digital transformation of small and medium-sized enterprises.

6. Conclusion

Against the backdrop of the growing digital economy, digital transformation is a necessary path for small and medium-sized enterprises to achieve sustainable development and gain competitive advantages. This article explores the motivations, current situation, and challenges faced by small and medium-sized enterprises in their digital transformation. It proposes measures to enhance management's awareness of digital transformation, increase policy support for small and medium-sized enterprises, strengthen digital technology talent training, improve digital security, and clarify strategic transformation plans. Although digital transformation still has a long way to go for small and medium-sized enterprises, with efforts, we believe that their future development path will become better and better.

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