Realistic dilemmas and strategies to promote the transformation of SMEs driven by digital economy

Wu Haohan¹,⁴, Guo Beinan¹,⁵,⁶*

¹School of Government, Beijing Normal University, Beijing, China

Abstract: Digital economy is the core element to drive the transformation of SMEs. From the three dimensions of technology-organization-environment, we analyze the dilemmas and obstacles of digital transformation of SMEs, which is conducive to the subsequent promotion of modernized and high-quality development of SMEs. The digital transformation of SMEs in China suffers from insufficient intention and motivation, lack of talents, insufficient capital, and backward technology. Further, this paper starts from the policy demands of enterprises, and proposes several promotion strategies in the process of promoting the digital transformation of SMEs, such as strengthening publicity and guidance, improving policy design, and cultivating talents, so as to provide reference for supporting and promoting the digital transformation of SMEs and consolidating the micro-foundation of digital economy development.

1. Introduction

The rapid development of China's digital economy has become a major driver of national economic growth, and its supporting role was fully demonstrated during the global spread of the new crown epidemic. 2023 "Government Work Report" proposed to accelerate the digital transformation of small and medium-sized enterprises (SMEs), and focus on enhancing the development of high-end, intelligent and green levels. Achieving this goal requires accelerating the integration of the digital economy with the real economy and accelerating the digital transformation of SMEs. Digital transformation provides a new path for SMEs to achieve transformation and upgrading at low cost, and is an inevitable choice for SMEs to enhance competitiveness and achieve high-quality development.

According to the data of the Ministry of Industry and Information Technology, by the end of 2022, the number of SMEs in China had exceeded 50 million, and SMEs contributed 50% of tax revenue, more than 60% of GDP, more than 70% of technological innovation, more than 80% of urban labor employment, and more than 90% of the number of enterprises, and SMEs in China have become a major force in the contemporary economy and a kind of representative of socio-economic It is a mainstream form of industrial organization representing the direction of social and economic development. SMEs have great advantages and play an irreplaceable role in increasing employment, improving competition, increasing overall economic vitality, and building a more efficient production system by complementing large enterprises [1]. Especially this epidemic that swept the world, many industries in most countries suffered from the epidemic, and more than eight tiers of SMEs could not sustain their books for more than three months [2], the epidemic not only directly affects the business income of enterprises in 2020, but also endangers the survival of enterprises, and the negative impact on the business income of SMEs is the degree of negative impact is significantly higher than that of large enterprises [3]. Thus, it is clear that studying the digital transformation of SMEs has a high marginal contribution in both the production and development of SMEs in the new era and in promoting the development of China's digital economy, and is a topic worthy of in-depth study.

Research related to enterprise digital transformation has received much attention from scholars at home and abroad. Digital transformation is an innovative process in which companies use digital technologies to rapidly adapt to changes in the external digital environment by reshaping aspects of their vision, strategy, and organizational structure [4]. Digital transformation should not only help companies to achieve close cooperation between digital technologies and different businesses and improve operational efficiency, but also can enhance their position and influence in the market by improving the quality of products and services as well as consumer satisfaction [5]. Digital transformation of companies in turn can achieve performance improvement goals by reducing costs, improving efficiency, and opening up innovative paths [6]. The EU proposes digital transformation capabilities and sustainability, reducing regulatory burdens and increasing market access, improving financing channels and reducing financing difficulties and costs in the face of SMEs' digital transformation, which has certain value for China's SMEs' digital transformation [7]. The digital economy promotes SMEs to climb up the value chain, but because

---

*Guo Beinan: bgbnmelody@163.com
haohan5@126.com

© The Authors. Published by EDP Sciences. This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (https://creativecommons.org/licenses/by/4.0/).
SMEs can hardly afford the high fixed costs of participating in the value chain and lack core technologies, SMEs are easily locked in the low end of the digital-based production network as their participation in the value chain deepens. SMEs have to choose transformational breakthroughs to seek sustainable development and survival value through digital transformation.

2. SME transformation dilemma

The rapid development of the digital economy has caused SMEs to suffer from digital transformation dilemmas in all three dimensions: technology - organization - environment. As a whole, SMEs still face many problems in digital transformation, and are clearly lagging behind large enterprises in practical application. Digital transformation of SMEs is first of all a process of lagging behind large enterprises in practical application. And data is the core element, while SMEs lack digital transformation awareness due to their own knowledge reserves, management capacity and other reasons. There is a lack of resources to support the digital transformation of SMEs, and supportive policies and financing difficulties are problems that need to be solved.

2.1. Weak digital technology foundation for SMEs

The most fundamental aspect of digital transformation for SMEs is the application of digital technology, and the problem of information silos and digital divide is common within enterprises. Advanced digital technology is sufficient power to drive the digital transformation of enterprises, while most SMEs are at the stage of information construction, and the application of digital technology is limited to office and financial aspects, without penetrating into the key stages of enterprise development. The data of various business information systems of SMEs are relatively independent, scattered and incompatible with each other, and cannot realize enterprise-level information integration and data sharing on the same platform. Some enterprises' intelligent production lines cannot be integrated with the whole production system in and only become display spaces. Enterprises are worried about the information leakage of core technology and data caused by digital transformation, and dare not carry out the innovation of digital technology, resulting in low quality of enterprise digital references.

2.2. The transformation of the organizational structure of SMEs is lagging behind

Organizational structure is the backbone of digital transformation of SMEs. There are still a large number of managers who are in a wait-and-see state and have not incorporated digital transformation into the strategic planning of enterprise development, and some managers think that digitalization is the electronicization of office processes and business processes with some management information system software. Small and medium-sized enterprises are in a weak position in the market competition due to their small scale, and lack a more mature system to train digital talents so as to enhance their value creation ability. The imbalance between the demand and shortage of digital talents leads to fierce competition for talents among enterprises, with digital personnel gathering to leading enterprises with advantages, while SMEs lack competitive advantages.

2.3. Lack of resource supply for SMEs

The external environment mainly affects the digital transformation of SMEs in terms of both policies and funds. Local government supportive policies are heavily tilted toward large enterprises, and the accessibility of policies does not match the needs of enterprises. The threshold of policy design is too high and difficult to apply. Supporting SME development is a medium-to-long-term task, with insufficient policy continuity and no long-term strategic and institutional support. Among the factors hindering the digital transformation of SMEs, more than 50% of enterprises believe that the cost of digital transformation investment is too high and there is a lack of financial support. SMEs have been experiencing difficulties in financing, leading to a series of problems exacerbated by economic slowdown and increased material costs. Financial institutions raise the lending threshold making it more difficult for SMEs to raise funds, and lack of adequate liquidity support, digital transformation involving digital facilities and talent training are intercepted.

3. Digital economy drives transformation of SMEs

In the context of the digital economy era, digital transformation of SMEs means upgrading and optimizing the company's industrial chain, and enterprises maintain competitive advantages in the market. Analyzing through the three dimensional perspective of technology, organization and environment, we recognize that SMEs still have dilemmas in digital transformation concept, professional talents, organizational structure, and digital transformation funds. Based on the current development status and dilemma of digital transformation of SMEs, the following policy recommendations are put forward.

3.1. New model of digital technology

Promote the digital transformation of the production system of SMEs through digital technology. SMEs should first have the concept of digital transformation, make reasonable use of digital industrial technologies and innovation platforms, enhance their profitability and sustainability with the help of digital technologies, and reconstruct their business models in order to continuously improve their management innovation capabilities. Vigorously improve the level of basic research, implement joint centralized public relations for key technologies, achieve innovation breakthroughs in
Digital transformation of SMEs can significantly accelerate the implementation of projects through digital transformation. In response to the difficulty of financing for SMEs, try to set up a steering fund to focus on supporting the monitoring of enterprises’ digital production processes, networked production methods and cloud platforms.

4. Conclusion
SMEs make great contributions in expanding employment, increasing residents' income, improving people's livelihood and stabilizing the economy. Under the influence of external factors such as the new crown epidemic and geopolitics, SMEs are facing problems such as increasing costs, financing difficulties and lagging talent training, and are in urgent need of exploring high-quality development models through technological innovation, organizational change and transformation. In the context of the rapid development of digital technology, the application of digital technology such as Internet, big data and cloud computing brings new opportunities to the development of SMEs. In conclusion, China has entered the digital era, and SMEs generally have the problem of digital transformation and upgrading. SMEs should be fully aware of the connotation of digital economy, perceive the possible risks of digital transformation and the opportunities of the digital era in advance, change their thinking, improve digital talent training system, enhance digital innovation capability and carry out transformation and upgrading. The government should introduce corresponding support policies to improve the external environment for the sound operation of SMEs' digital transformation.

References


