



# Research on Digitization of Core Competitiveness of Micro, Small and Medium-Sized Enterprises – Take Z Enterprise as an Example

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**Abstract.** With the continuous development of digital economy, improve the quality of economic development, the society has developed to a new stage of economic - digital economy era. This characteristic of economic development brings great opportunities and challenges to small, medium and micro enterprises in China. In the era of digital economy, enterprises can have more real-time and accurate external market and internal enterprise information, and can also provide customers with more accurate services to improve their core competitiveness. In this paper, firstly, the content and characteristics of the current digital economy development are analyzed, and the development trend of digital economy and its impact on the market competition of enterprises are briefly analyzed. It is proposed that enterprises should actively carry out digital transformation and accelerate the construction of scientific and efficient digital operation system. Secondly, from the perspective of the core competitiveness of enterprises, this paper summarizes and explains the content, characteristics and evaluation standards of the core competitiveness of enterprises, and proposes that the core competitiveness of enterprises should be built based on the digital system. Then it puts forward how to build the digital system and how to use the digital system to improve the core competitiveness.

**Keywords:** digital economic era · Small · medium and micro enterprises · Core competitiveness · Digital management system

## 1 Introduction

Small, medium and micro enterprises are the main growth point of China's national economy, small, medium and micro enterprises are the basic force to activate the market, fully competitive small and micro enterprises are the main force to promote the development of China's market, improve the market, at the same time small and micro enterprises are the regulator to resolve the financial crisis [1]. At present, the Chinese government continues to deepen the reform of the economic system, which has released a large number of policy dividends and provided favorable policy for the development

of enterprises [2]. There are a large number of micro, small and medium-sized enterprises in China, covering a wide range of areas, which play a huge role in promoting employment and improving the quality of economic development [3]. The development of small, medium and micro enterprises is directly related to the economic trend of China [4].

Data from the Ministry of Industry and Information Technology show that by the end of 2021, the number of micro, small and medium-sized enterprises in China had reached 48 million, 2.7 times higher than that at the end of 2012. The number of enterprises per 1,000 people in China was 34.28, 3.4 times that of the end of 2012. In 2021, 24,800 new enterprises were established per day, 3.6 times that of 2012. Micro, small and medium-sized enterprises (Msmes) have grown rapidly. They are the largest and most dynamic group of enterprises and have become the main force of China's economic and social development [5]. According to the fourth National Economic Census, China's small, medium and micro enterprises account for 99.8 percent of all enterprises, 79.4 percent of their employment, 77.1 percent of their assets and 68.2 percent of their operating income. This reflects that under the current economic environment, China's small, medium and micro enterprises have a very high birth rate and play a very important role. However, the mortality rate is also high. According to the survey, due to the impact of the current COVID-19 epidemic and normal prevention and control management, 34% of enterprises can only last for one month, 33.1% can last for two months, and only 17.91% can last for three months [6]. The average life cycle of a private enterprise is only 2.9 years, with less than 7% surviving for more than 5 years and less than 2% surviving for more than 10 years. This means that more than 98% of China's micro, small and medium-sized enterprises will die within 10 years of their establishment.

## 2 Literature Review

Luo Zhongwei and Lu Kejing proposed that the group transformation and upgrading of micro, small and medium-sized enterprises is an objective requirement for the transformation of social economy to high-quality development, and the daily operation of enterprises relying on digital economy will promote the overall efficiency of enterprises to a higher level [7]. Liu Qiuju proposed that the development of enterprise automation and informatization is an important foundation for enterprises to realize digital transformation, and enterprise digitalization is a more advanced stage of enterprise automation and informatization development [8]. Li Gang and Huang Sifeng believe that the digital transformation of enterprises means that all the information involved in each link of enterprise operation is changed into visible, measurable and storable data, and the data can be identified, acquired, processed, stored and used smoothly and quickly, so as to provide scientific and sustainable data support for future strategic decisions [9]. Brynjolfsson and McAfee believe that digital transformation is conducive to ensuring product quality and high enterprise productivity, making enterprises stronger and more transformative [10]. Especially in productive enterprises, in the current increasingly volatile and unpredictable market, Competitive advantage can no longer be achieved only by high product quality or efficient processes [11], but by having a stronger market response capability. Powerful digital analytics can help enterprises achieve precisely this trend. However,

there are some different voices in academia. Qi Yudong and CAI Chengwei believe that although digital transformation can improve enterprise performance by promoting new business models, it also increases the management expense rate of enterprises, so its overall impact on enterprise performance is not particularly obvious [12]. At the same time, according to the “2021 Chinese Enterprise Digital Transformation Index Research” released by Accenture, this study shows that only 16% of Chinese enterprises have a significant effect of digital transformation, so it also proves the problem of enterprise digital transformation to a certain extent.

### 3 Case Study

The development path chosen by an enterprise is closely related to its ultimate fate [13]. This chapter analyzes a case of digital transformation of a small enterprise in Hebei Province, and explains how to improve the quality of digital transformation and improve the core competitiveness of the enterprise through PESTLE analysis.

PESTLE analysis is used to analyze the necessary analysis before the implementation of a strategic plan, which is widely used in the daily practice of enterprises. Through the analysis of the political Environment (Politics), economic environment (Economy), Social environment (Social), technology status (Teconology), Legal regulations (Legal) and environmental factors (Environment), it summarizes the opportunities and risks faced by enterprises to implement the strategy.

#### 3.1 Case Study of Z Enterprise

##### Overview of Z Enterprise Background

Z Enterprise is a service auto service company located in Xingtai City, Hebei Province. Founded in 1996, Z Enterprise has been operating in Xingtai City, Hebei Province for nearly 30 years, and is a leading enterprise in the local auto service industry. The business of Z enterprise involves car maintenance, car rental, car modification, car overhaul and inspection, etc. The corporate culture of Z enterprise is “to serve every owner well, regard vehicle safety as their own life, and provide good service every time in a standardized and efficient manner”. In 2020, the auto service industry was hit by the COVID-19 epidemic and the overall downturn, so the management of Z introduced a digital operation system to give full play to its advantages.

#### 3.2 PESTLE Analysis of Z Enterprise

##### Analysis of Political Environment

At present, the state vigorously supports the digital transformation of enterprises to meet the high-quality development of the country. In the 14th Five-Year Plan of the People’s Republic of China for National Economic and Social Development and the Outline of the Vision Goals for 2035 (draft), which was proposed on March 5, “Accelerating digital development and building a digital China” is a separate chapter, which will build new

advantages of the digital economy, adhere to the new development concept, and create a good digital ecology, as one of the goals and tasks of the 14th Five-Year Plan period. It shows that from the national political level, the digital transformation of enterprises is a beneficial behavior in response to national policies.

### **Analysis of Economic Environment**

China is currently the world's second largest economy, which cannot be achieved without the contribution made by micro, small and medium-sized enterprises. At present, China's economy has entered the track of high-quality development. China is currently undergoing economic structural reform. If we want to not lose ourselves in the structural reform, we must carry out digital transformation.

### **Analysis of Social Environment**

At present, people all enjoy the convenient conditions brought by digital products. At the same time, with the emergence of a large number of online auto service applications, such as Tmall car raising, Tuhu car raising, etc., the enterprise has to carry out digital transformation. With the penetration of digital economy into all aspects of social production and life, the enterprise must carry out digital transformation to adapt to the pace of social development.

### **Analysis of Technology Development**

The development of science and technology undoubtedly provides a higher level of technical support for digital transformation. The rapid development of digital products such as the Internet, big data, blockchain and artificial intelligence has greatly improved the convenience and efficiency of users. Enterprises can make full use of the convenience brought by digital technology. "5G will bring about fundamental changes in network intelligent hardware equipment, generate super massive data resources, reconstruct the key information infrastructure of a new generation of countries and cities, promote the leap from consumer Internet to industrial Internet, and thus open a new wave of innovation in the digital economy."

### **Analysis of Legal Regulations**

At present, China will implement the Data Security Law of the People's Republic of China on September 1, 2021. Industry development is also a very important point in the Data Security Law. For example, Article 7 emphasizes that the state protects the rights and interests of individuals and organizations related to data, encourages the rational and effective use of data in accordance with the law, ensures the orderly and free flow of data in accordance with the law, and promotes the development of the digital economy with data as the key element. Article 14 The State implements the big data strategy, promotes the construction of data infrastructure, and encourages and supports the innovative application of data in all industries and fields. People's governments at or above the provincial level shall incorporate the development of the digital economy into

their national economic and social development plans and formulate digital economy development plans according to their needs.

### Analysis of Environmental Factors

The development of digital economy is conducive to the protection of ecological environment. The progress of Internet technology has promoted the improvement of resource utilization efficiency and the wide application of new environmental protection technologies, which has improved the level of environmental pollution prevention and control, thus reducing environmental pollution. Therefore, the development of digital economy is in line with the basic national policy that we can protect the ecological environment.

### 3.3 Case Study of Z Enterprise Digital Transformation

In 2021, Z Company introduced the Internet achievements of a technology company in Xiamen, organically integrated the company's enterprise data, customer data and employee data by using an APP, and quickly found the problems existing in the company by using the powerful data analysis ability of the APP. After more than one year of run-in between the digital system and the company, the system has been deeply integrated into all aspects of enterprise operation, from management decision-making, to employee management, tool registration, and constantly improve the efficiency of enterprise operation in all aspects.

By visiting the enterprise, the data information before and after the digital transformation of the company is obtained. The managers were asked about the company's turnover, gross profit margin and the number of employees. The number of employees is selected as those who have served for more than half a year, so as to more accurately explain the transformation results of enterprises. The specific data as shown in Table 1.

According to the relevant data provided by the company, we can clearly see that enterprises have a large increase in turnover before and after digital transformation. In 2022, compared with 2021, the turnover growth rate is 11.24%, which is a relatively large increase. At the same time, the company's gross profit margin increased by 1.9 percentage points, which can be seen that the profit space of the enterprise has also expanded after digital transformation. In terms of the number of employees, the company has added four permanent employees to cope with the expansion of scale, but the increase in turnover brought by the addition of four employees is not trivial. In 2021, the average annual turnover will be 115,800 yuan, and in 2022, the average annual turnover will be 119,600 yuan, with a year-on-year increase of 10,800 yuan. From this, we can also see that the salary level of employees in the enterprise has also increased slightly. The enhancement

**Table 1.** Data information of Z enterprise

For the year	Company turnover	Company gross profit margin	Number of employees (more than half a year)
2021	6,024,500	32.3%	52
2022	6,702,200	34.2%	56

of internal core strength has brought strong market competitiveness to the enterprise, and customer satisfaction and service efficiency have been greatly improved, which has also increased the market share brought by the enterprise. The core competitiveness of the enterprise has been greatly improved.

### **3.4 Problems in the Digital Transformation of Enterprises**

The digital transformation of Z enterprise is very successful to a certain extent, but it cannot be ignored that it also has many problems in the process of transformation:

1. Without giving full play to the advantages of talents, most of the managers of the enterprise are from automobile repair technology, and they are not skilled in the use of digital products. Moreover, there is no suitable talent in the local area to enter the enterprise for guidance. It is far from enough to rely on the remote parent company in Xiamen for guidance services, because they cannot understand the actual situation in operation, resulting in some problems in the decision-making process. As a result, the efficiency growth is not high.
2. Enterprise employees can not make better use of digital platform. First of all, most of the auto repair employees have low education level, most of them are high school and below, so they are slow to accept new things.
3. The transformation is too quick, lack of practical analysis ability, the enterprise only use half a year to build a digital platform, from the macro point of view, some of the enterprise's book data does increase, but deep into the enterprise will find many do not run in line with the scene, so the enterprise digital transformation also needs to combine theory and practice. Build a development model in line with its own development.

## **4 Building the Core Competitiveness of Enterprises Based on Digital Platforms**

The digital era has ushered in a new era of global economic development. With the continuous development of digital technology in the future, the update and iteration of Internet, blockchain, big data, cloud computing and other technologies are bound to bring profound industrial changes to China [14]. In order to better cope with this change, enterprises should actively use digital technology to improve their competitiveness, grasp the general trend of The Times, and actively respond to challenges. In order to cope with the new normal of market economy development, the following measures are proposed to improve the competitiveness of enterprises:

### **4.1 We Should Vigorously Innovate and Fully Understand the Characteristics of Economic Development in the Digital Era**

At present, China's economic development is in a stage of high-quality development, and "mass entrepreneurship and innovation" is the focus of the country's development. The trend of economic development with digital economy as the core will inevitably lead the all-round development of China's economy and society. Enterprises must not miss this development opportunity. If they miss it, they will be derailed by The Times and will inevitably sink in the ocean of the development of The Times. Enterprises

must establish the concept of continuous innovation, should realize that innovation is the source of enterprise development vitality. Enterprises should insist on using digital platforms to carry out internal and external reforms, establish a sound management and decision-making system internally, give full play to data advantages, establish a sound and perfect employee management system, and use institutional advantages to play the enthusiasm of employees and stimulate their innovation ability. We should improve the dynamic and flexible enterprise management scheme, and implement the dynamic management and coordinated communication into all aspects of enterprise management.

#### **4.2 Adhere to Customer-Oriented, the Establishment of Efficient Digital Service Platform**

In any stage of development, customer factor has always been the fundamental factor affecting whether an enterprise can stand firm. Especially in today's social development stage, obtaining customers is not the most important problem, but maintaining good customers is the new test. In the digital era, enterprises can accurately analyze customer demands, achieve "think what customers think, do what customers want to do", and comprehensively improve customer satisfaction for enterprises. Blockchain, big data, Internet of Things and other technologies can be used to establish an efficient customer service section, record the transaction records and satisfaction after each customer service, and serve customers with high-quality service experience.

#### **4.3 We Can Introduce Talents and Build a High-Quality Digital Platform**

Digital transformation is an inevitable way for enterprises to improve their competitiveness [4]. Under the traditional production mode, most enterprises will focus on the introduction of production-related professionals, ignoring the introduction of digital transformation talents. Of course, under the traditional development mode, this approach is understandable, but now the digital era enterprises should go hand in hand with the two, focus on the introduction of digital talents, to create a high-quality digital operation system. First of all, through cooperation with colleges and universities, we can use the education platform of colleges and universities to provide high-quality talents for enterprises [15]. Secondly, attention should be paid to candidates with digital transformation awareness in recruitment. Strengthen the communication between digital talents and employees in other departments of the enterprise, so that other departments of the enterprise will also move closer to the aspect of digital transformation, and ultimately help the enterprise improve its core competitiveness [8].

## **5 Conclusion**

The industry should actively integrate into the wave of digital economic development and use digital technology to cultivate new driving forces for enterprise development. At present, the economic development of small, medium and micro enterprises needs to use digital transformation to cope with the pressure brought by the market and competitors

[16]. In the process of transformation, enterprises should focus on the way of transformation, and should not focus on speed and neglect quality. Reasonable understanding of product innovation and research and development, market expansion, enterprise operation and other aspects of the comprehensive integration with digital technology, so as to improve the overall quality and efficiency of enterprise development, promote the comprehensive improvement of enterprise core competitiveness. In the daily operation and management of enterprises, they should deeply realize the current situation of social development, strive to keep pace with The Times, and ensure that the production and service of enterprises meet the development and demand of the market.

## References

1. Li, J. (2011). Discussion on Digital Transformation and upgrading of small and medium-sized enterprises [J]. *Shopping Mall Modernization*, 2022, (16): 137–139.
2. Liu Q J. Learning digital economy innovation experience planning enterprise digital transformation path [J]. *Wealth Today (China Intellectual Property)*, 2021 (6): 47–48.
3. Ma N. Small and medium-sized Enterprise Development Strategy management Countermeasures Based on core Competitiveness [J]. *China Collective Economy (Collective Economy)*, (03): 45–46 (2011).
4. YE S. Thinking on Digital transformation of construction enterprises under digital economy [J]. *China Construction Informatization*, 2021 (14): 70–71.
5. Wang Yaoyao & He Jianhua. Research on digital transformation of small and medium-sized enterprises in the era of digital economy [J]. *Times Finance*, 2019, (26): 60–61.
6. Zhao Jing & Zhang Yanbin. Research on financial digital transformation path based on sharing mode in intelligent era [J]. *Business Review*, 2021(35): 85–87.
7. Luo, Z. & Lu, K. et al. Turning Crisis into opportunity: Using digital technology to accelerate the group transformation and upgrading of small and medium-sized enterprises [J]. *Price Theory and Practice*, 2020(6): 10–16, 36.
8. Liu Qiuju. Learning from the innovation experience of digital economy and Planning the Way of enterprise digital transformation [J]. *Wealth Today (China Intellectual Property)*, 2021(6): 47–48.
9. Li Gang & Huang Sifeng. Research on the survival and development countermeasures of small and medium-sized enterprises in China against the background of global COVID-19: based on the analysis of countermeasures for digital transformation and business model upgrading [J]. *Price Theory & Practice*, 2020(7): 13–16.
10. Brynjolfsson E, McAfee A. *The second machine age*. New York: W. W. Norton & Company, 2018: 84–92.
11. Wetering R, Kurnia S, Kotusev S. The role of enterprise architecture for digital transformations. *Sustainability*, 2021, 13 (4): 1–4.
12. Qi, Y. & Cai, C. Wei. Research on the multiple effects of digitalization on manufacturing enterprise performance and its mechanism [J]. *Learning and Exploration*, 2020 (7): 108–119.
13. Tian S B. Digital transformation analysis of retail enterprises in the Yangtze River Delta in the era of digital economy [J]. *Science and Technology Economic Market*, 2019 (11): 40–42.
14. Jing, H. & Yin, W. Analysis of digital innovation mode of manufacturing enterprises under digital economy [J]. *Journal of Liaoning University of Technology (Social Science Edition)*, 2019, 21 (6): 51–53.



15. He Fan, Liu HX. Evaluation on the performance improvement effect of real enterprises' digital transformation from the perspective of digital economy [J]. Reform, 2019(4): 137–148.
16. White Paper on Cross-border E-commerce Financial Services for Small and Medium-sized Enterprises in China [R]. Zhijin Future (Zhijin Futures), (2020).

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