

Does Digital Transformation Promote the Sustainable Development of Enterprises?

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Abstract: Under the double pressure of economic downturn and COVID-19 epidemic, digital transformation is the only way to realize the sustainable development of enterprises, but the existing literature pays little attention to the mechanism between them. This paper attempts to analyze the non-economic performance brought by digital transformation from the perspective of sustainable development of enterprises and its potential path. It is found that digital transformation can promote enterprises to actively fulfill their social responsibilities, and then realize the sustainable development of enterprises, in which social responsibilities play an intermediary role. Based on the perspective of enterprise sustainable development, this study enriches the theoretical research of digital transformation, reveals the "black box" between digital transformation and enterprise sustainable development, and provides theoretical basis and practical reference for the practice of enterprise digital transformation.

Keywords: Digital transformation, Sustainable development, Socially responsible

1. Introduction

At present, under the background that the global economic recovery has been weak for a long time, China's economic growth rate is slowing down, and the economic structure is undergoing deep adjustment from incremental capacity expansion to stock adjustment and optimization increment. At the same time, in recent years, the occurrence of major public health crises, such as the COVID-19 epidemic, has led to the shutdown of production, intensified competition, tight supply chain, broken funds and other problems in most enterprises, posing a huge challenge to sustainable development. According to incomplete statistics, in 2021, more than 460,000 enterprises in China closed down, and nearly 3.1 million self-employed people cancelled, which shows that it is particularly important to realize the sustainable development of enterprises in the fierce market competition.

With the deepening of the new generation of scientific and technological revolution, the wide application of big data, cloud computing and other technologies, digital

Transformation has become an important way and strategic choice for enterprises to adapt to the tide of digital economy and achieve high-quality development^[1]. Many enterprises have chosen digital development to make changes in production, management, organization and management, but can digital transformation really bring high-quality development to enterprises? Promote the sustainable operation of enterprises? These problems deserve our further discussion.

There are two kinds of research related to this paper, one is the driving factors of sustainable development of enterprises, and the other is the research on digital transformation. In the study of the driving factors of sustainable development of enterprises, scholars mainly analyze from the micro level of enterprises, including enterprise innovation^[2], management ability^[3], enterprise culture^[4] and so on. The research on digital transformation mainly focuses on two aspects: First, the research on the driving factors of digital transformation. Based on the micro-level of enterprises, this paper probes into the academic experience of senior executives^[5] and the dynamic capabilities of enterprises^[6], etc. Based on the macro-level, the national policy^[7], tax system^[8], external pressure^[9] and so on are studied. Second, the research on the economic effect of digital transformation. The role of digital transformation is mainly reflected in improving production efficiency^[10], reducing financing constraints^[11], reducing cost stickiness^[12], and improving innovation level^[13]. Few scholars pay attention to the non-economic performance brought by digital transformation to enterprises. Through the literature search of CNKI, only Xiao Hongjun (2021)^[14], Zhao Chenyu (2022)^[15] and Shen Minghao (2022)^[1] have studied the promotion effect of digital transformation on corporate social responsibility.

Although many literatures have conducted in-depth research around digital transformation and sustainable development of enterprises, looking at the existing research, although some valuable research results have been obtained, there are still the following shortcomings: First, the existing literatures pay less attention to the research on the non-economic effects of digital transformation on enterprises, and even less attention to the sustainable development performance of enterprises. Secondly, the research on the driving factors of sustainable development of enterprises mostly starts from the traditional perspective, lacking the consideration based on the big wave of digital economy in China, and analyzes its influence on enterprise innovation from the perspective of digital economy, a new economic form. As a matter of fact, there are few literatures to prove the internal influence mechanism of digital transformation on the sustainable development of enterprises. Third, the existing research mostly adopts empirical research, but little theoretical derivation, and lacks in-depth analysis of the logical mechanism of digital transformation to promote the sustainable development of enterprises.

Based on the above background, this paper introduces social responsibility as an intermediary variable, constructs a theoretical analysis framework of digital transformation to promote sustainable development of enterprises based on social responsibility, and holds that the influence of digital transformation on sustainable development of enterprises is mediated by social responsibility. The marginal contributions of this paper are as follows: First, try to combine digital transformation with sustainable development of enterprises, theoretically analyze the promotion effect of digital transformation on sustainable development of enterprises, and discuss its influence path from the angle of enterprise innovation and information asymmetry. Secondly, social responsibility is introduced as an intermediary variable, which reveals the "black box" between digital transformation and sustainable development of enterprises, and provides theoretical and practical guidance for enterprises to carry out digital transformation.

2. Institutional background

The rapid development of information technology not only promotes the industrial upgrading and transformation, optimizes the economic structure and improves the efficiency of economic development, but also gradually gives birth to a new economic form-digital economy with the continuous penetration of information technology into all walks of life. The so-called digital economy refers to a new economic form with data resources as the key factor, modern information network as the main carrier, the integration and application of information and communication technologies, and all-factor digital transformation as the important driving force, which promotes fairness and efficiency to be more unified. China officially put forward the probability of digital economy in the G20 Digital Economy Development and Cooperation Initiative released at the G20 Hangzhou Summit in 2016. Digital economy is different from other forms of economy, and has the characteristics of rapidity, high permeability, directness, sustainability and increasing marginal benefits. It is precisely because of these attributes that digital economy can be effectively integrated with various industries, thus promoting economic development. According to the China Internet Development Report (2021) published in July 2021, the market size of China's digital economy has reached 39.2 trillion yuan, and the proportion of digital economy in GDP has increased to 38.6%, ranking second in the world.

3. Mechanism exploration

3.1 Digital transformation and social responsibility fulfillment

Enterprise digital transformation means that enterprises use digital intelligent technology to deeply involve in enterprise operation management and business process, promote the digitalization of the whole process of enterprise R&D, production and sales service, and finally realize the deep empowerment of enterprise innovation chain, supply chain, value chain and all-round management by digital technology. Under the digital transformation, the corporate governance structure, production mode and business model have changed. The application of digital technology has increasingly become a bridge connecting business, public welfare and society, providing a new way of digital empowerment for many enterprises to practice social innovation and social responsibility. From the perspective of the composition of social responsibility, the classification of stakeholders represented by Clark emphasizes that enterprises should undertake specific social responsibilities to employees, customers, shareholders, the social environment and even future generations of human beings, according to the specific targets of social responsibility. Digital technology can penetrate into all aspects of corporate social

responsibility, strengthen corporate social responsibility awareness, and finally enhance corporate social responsibility performance.

Specifically, from the perspective of employee responsibility, the digital transformation of enterprises is conducive to sustainable development, while the continuous operation and growth of enterprises will maintain and create more employment opportunities and jobs, so enterprises continuously acquire human resources. In addition, the digital transformation of enterprises requires relevant training for employees to enrich their own skills. From the perspective of customer responsibility, the use of digital technology can drive the service transformation of enterprises. By using new technologies such as data mining, Internet of Things, and blockchain, enterprises can analyze customers' consumer behavior in time, locate customers' consumption habits, provide targeted services for customers, and improve their service experience and service quality. From the perspective of shareholders' responsibility, enterprises can quickly collect information from the market through digital technology, which can help strategic decision-makers of enterprises understand, identify, construct and select the current development mode of enterprises more clearly, realize value-added and increase shareholders' dividends for enterprises. From the perspective of environmental responsibility, digital technology can realize the refined management of product life cycle, optimize and reorganize all links of product production through the sharing and effective utilization of large-scale data, improve the production efficiency and management efficiency of enterprises, reduce the waste and consumption of materials, and promote the green innovation and development of enterprises. In addition, the application of digital technology and artificial intelligence can realize real-time monitoring of ecological environment changes in the production process, effectively control pollution sources, reduce resource waste and pollutant discharge, and enhance the awareness of environmental protection responsibility of enterprises.

3.2 The driving role of digital transformation in the sustainable development of enterprises

From the perspective of information asymmetry, the digital transformation of enterprises can increase the intensity and amount of enterprise information acquisition and reduce the degree of information asymmetry. This is because under the digital transformation, on the one hand, enterprises can use emerging digital technologies to obtain big data from shareholders, creditors, customers, suppliers, regulatory authorities, etc., which broadens the channels and depth of information collection, and helps them quickly grasp the governance information of shareholders, board of directors, executives and other stakeholders, and alleviate the degree of asymmetric governance information. On this basis, they can meet the reasonable governance demands of stakeholders by timely adjusting internal power arrangements, and promote the sustainable development of enterprises. On the other hand, digital technology can enable the public and other stakeholders to obtain information about the business situation of enterprises from the open market in a timely and accurate manner, which can force enterprises to disclose information, reduce information asymmetry and help stakeholders make correct decisions by investing. With the high degree of information symmetry brought by digital transformation, enterprises can actively or passively improve their sustainable development ability. From an active perspective, only enterprises with good development potential dare to disclose a large amount of information to accept the test of the open market. From a passive perspective, the reduction of information asymmetry brings higher transparency, which can improve the production and operation behavior of enterprises and promote their sustainable development.

From the perspective of enterprise innovation, digital transformation can promote the recombination of various production factors, improve the innovation ability of enterprises and realize the sustainable development of enterprises. On the one hand, digital transformation has narrowed the distance between enterprises and customers, improved the market perception ability of enterprises, promoted enterprises to continuously carry out R&D and innovation according to user feedback, enhanced the core competitiveness of enterprises, made enterprises seize more market share and obtain excess profits, and played a positive role in promoting the sustainable development ability of enterprises. On the other hand, digital manufacturing can realize the refined management of the whole life cycle of products, optimize and reorganize the links of product manufacturing, design and development, process flow and resource utilization through the sharing and effective utilization of large-scale data, innovate green energy-saving technologies, improve the production efficiency and management efficiency of enterprises, realize the production of low-pollution, low-consumption and high value-added products, and enhance the sustainable development capability of enterprises.

3.3 The intermediary role of social responsibility in digital transformation and sustainable development of enterprises

From the above analysis, it can be seen that the digital transformation of enterprises can help improve the social responsibility performance of enterprises. Only when an enterprise adapts to the development and changes of the social and economic environment and takes on the social responsibility of the enterprise can it gain long-term competitive advantage and ensure its long-term survival and development. This is because, first of all, enterprises can provide innovative ways for sustainable development by fulfilling their social responsibilities. Continuous innovation is the fundamental reason for enterprises to keep competitive advantage in complex and dynamic environment, and the fulfillment of corporate social responsibility can provide enterprises with a new way to realize continuous innovation. The fulfillment of corporate social responsibility helps investors to judge the investment efficiency of intangible assets of enterprises, and there is a "1+1>2" synergy between the fulfillment of corporate social responsibility and the technological innovation capability of enterprises. Secondly, by fulfilling the social responsibility, enterprises can bring more resources to the sustainable development of enterprises. Fulfilling social responsibility can bring good reputation capital and establish a good social image for enterprises, which is conducive to obtaining resource support from banks, suppliers, governments and other stakeholders and promoting the long-term development of enterprises. Finally, by fulfilling corporate social responsibility, enterprises can make their own sustainable development have a leading possibility. The necessary condition for maintaining the leading possibility is "imitation barrier". Enterprises should establish unique advantages that other market competitors can't imitate, so that enterprises can have leading ability in the market. To sum up, a theoretical analysis framework based on social responsibility as an intermediary variable is constructed, as shown in Figure 1.

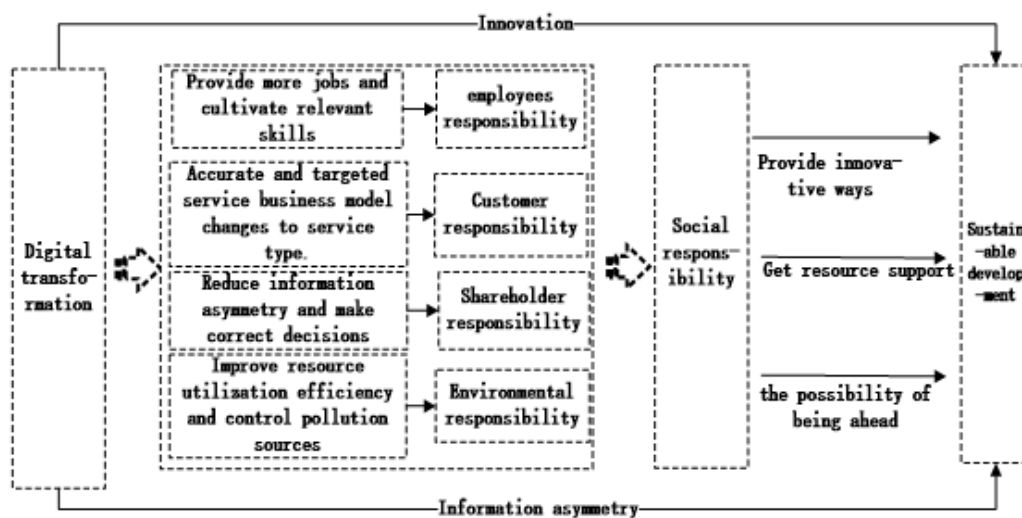


Figure 1: The Road Map of Promoting the Sustainable Development of Enterprises by Digital Transformation Based on Social Responsibility

4. Research conclusion and enlightenment

Can the new development power given by digital transformation promote the sustainable development of enterprises? This paper probes into the influence of digital transformation on sustainable development of enterprises and its internal mechanism, and regards social responsibility as the intermediary between digital transformation and sustainable development of enterprises, which can theoretically clarify the influence path of digital transformation on sustainable development of enterprises. The results show that digital transformation can promote the fulfillment of corporate social responsibility by improving employee responsibility, customer responsibility, shareholder responsibility and environmental responsibility. However, enterprises' active social responsibility can bring innovation path, resource support and leading edge, so as to realize the sustainable development of enterprises.

The above research conclusion has important practical significance. At present, the development of digital economy is the trend of the domestic economic environment. No matter whether enterprises take the initiative or passively in digital transformation, the impact of digital transformation on enterprises is multidimensional. Based on this, this paper puts forward the following policy suggestions:

As far as the government is concerned, firstly, it should formulate and improve various laws and regulations on the development of digital economy, strengthen the protection of the digital economy operating environment through strict legal supervision, and ensure the efficient operation of enterprises. Second, we should formulate relevant incentive policies, give certain government subsidies to enterprises that take the initiative to carry out digital transformation, and guide enterprises to flexibly use preferential policies to actively carry out digital transformation. Third, strengthen the training of digital talents, carry out digital-related courses in colleges and universities, train professional counterparts, and adopt diversified means to encourage enterprises to carry out digital transformation.

For enterprises, firstly, enterprise managers should recognize the role of digital transformation in promoting the sustainable development of enterprises, actively respond to the national policy of vigorously developing digital economy, and speed up the digital transformation in production, operation, organization and management of enterprises. Second, training employees' digital skills from time to time to improve their digital literacy and realize the digital transformation of enterprises. Third, give full play to the intermediary role of social responsibility between them. While enterprises actively undertake social responsibility, they also need to increase the disclosure of social responsibility information, make use of media such as Internet and information technology to expand the influence of enterprises to undertake social responsibility, and actively use public opinion to obtain competitive resources for enterprises, so as to achieve the win-win goal of social and sustainable development of enterprises.

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