

Digital Capability and Sustainable Development of Enterprises: the Role of Long-Term Competitive Advantage

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Abstract: *With the arrival of the VUCA digital economy era, digital resources have become an important factor of production. How to effectively utilize digital resources to build and develop digital capabilities, thereby promoting the sustainable development of enterprises, has attracted academic attention. Based on the Dynamic Capability Theory, this study introduces long-term competitive advantage and demonstrates the impact mechanism model of digital capabilities on the sustainable development of enterprises. The study aims to explore the antecedents of promoting sustainable development of enterprises and the role of digital capabilities, providing theoretical guidance for enterprises to effectively build and enhance digital capabilities to promote sustainable development.*

Keywords: *Digital Operations; Digital Innovation; Long-Term Competitive Advantage; Sustainable Development of Enterprises*

1. Introduction

The report of the 20th National Congress of the Communist Party of China pointed out that the focus of economic development should be on enterprises, especially the real economy; High-quality development requires the construction of a new generation of growth engines such as information technology and artificial intelligence. With the rapid development of Big data, artificial intelligence, cloud computing, and other digital technologies in China, and the arrival of a digital and intelligent digital economy era, the Traditional economy is rapidly turning to a digital economy and intelligent economy.^[1]

What factors can promote the sustainable development of enterprises? Scholars' research on the sustainable development of enterprises mainly focuses on its concept and connotation, the construction of an evaluation index system, and its correlation with corporate social responsibility. The exploration of its antecedent variables focuses on the macro level.^[2] There is a lack of research at the micro-enterprise level. However, the practice of the business community has demonstrated the importance of "Digital thinking and Digital capability" such as digital infrastructure application and digital management methods to the world. Company A used digital tools such as information technology to create the working mode of "RDHY" from traditional mass manufacturing to Mass customization. Through the enterprise's digital ability to respond to market changes, Group A has been the No. 1 brand of large household appliances in the world for nine consecutive years, promoting the sustainable development of the enterprise.^[3]

The dynamic capability theory suggests that in the face of rapidly changing environments, enterprises will generate a new capability by integrating, constructing, and reconfiguring internal and external resources and capabilities, thereby creating and maintaining a competitive advantage compared to other enterprises, to assist in the sustainable development of the enterprise.^[4] With the arrival of the digital economy era, the internal and external environment of enterprises has undergone significant changes. Digital has become a new factor of production. It is an important way for enterprises to gain a long-term competitive advantage to reshape dynamic capabilities through Digital transformation. In summary, this study is based on the dynamic capability theory, exploring the impact mechanism of digital capabilities on sustainable development of enterprises from the perspective of long-term competitive advantage acquisition, and proposing management suggestions on how digital capabilities can promote sustainable development of enterprises.

2. Interpretation of relevant concepts

2.1. Digital capability

The sustainable development of the enterprise digital economy was first proposed by Tagore et al. In 2007, the digital economy emerged as a phenomenon-level buzzword in China. With the continuous development of the digital economy, scholars' research on the "digitalization" of enterprises is becoming increasingly in-depth. In the context of the arrival of the digital economy era and digital technology innovation, digital resources have become new production factors, digital infrastructure has become new infrastructure, and the digital capability of enterprises has also attracted academic attention. Digital capability is the ability of enterprises to profit, allocate, integrate, and restructure,^[5] including digital operations and digital innovation. Digital operations are the process of using digital technology to restructure traditional production processes, including digital channels and marketing, intelligent production and manufacturing, and intelligent support for resource acquisition and control using digital technology. Digital innovation refers to the activity of different entities recombining digital resources to generate new products, services, processes, and business models, including product and service innovation, digital business models, digital venture capital, and incubation. Scholars are conducting comprehensive research on digital operations and innovation around "4W (what to produce, what situation, how to utilize tools, and what tools to use)".

2.2. Sustainable development of enterprises

The concept of sustainable development applied in the field of environment was first proposed in the early 1990s, and gradually developed into various fields. The concept of enterprise sustainable development also emerged as the times require. Scholars such as Li Ruixue focus on the internal factors of enterprises, believing that the ability level of sustainable development of the enterprise itself is the measurement standard for sustainable development, and specifically dividing it into five dimensions, including human resources, technological innovation ability, economic strength, market adaptability, and business management ability.^[6]

The sustainability of human resources in enterprises includes reasonable personnel allocation, continuously optimized talent quality, and effective management systems. Employees are the most fundamental and precious resource of enterprises and the source of creating all value and wealth. Therefore, the sustainability of human resources is the most fundamental component of sustainable development in enterprises. Market adaptability refers to the agility of an enterprise in observing, responding to, and responding to the market during its development process, to ensure that it is not eliminated by the market and achieve sustainable development; Business management ability refers to the ability of an enterprise to control its overall development and specific actions through management systems, organizational structure, leadership forms, and other means. It is a part of sustainable development that plays an overall regulatory role.

2.3. Long-term competitive advantage

The earliest work to mention the concept of competitive advantage was Chamberlain's 1933 book "The Theory of Monopolistic Competition". Subsequently, this concept was widely used and studied by scholars both domestically and internationally. He Xiaogang pointed out in his work that the competitive advantage of a company is a capability and strength that is superior to other companies in a certain aspect, specifically manifested as the ability to enable the company to obtain income exceeding the industry average.^[7] Scholars such as Dong Baobao have proposed that competitive advantage refers to the ability of a company to surpass its competitors and achieve profits that exceed the average level in the industry through the use of unique resources or capabilities it holds during a specific period.^[8] It is an attribute and sustainable development ability that a company exhibits in the process of market competition. This article cites this concept to define long-term competitive advantage and believes that a company's long-term competitive advantage includes the following three layers of connotation: (1) long-term competitive advantage comes from the use of unique resources and capabilities of the company. (2) The characterization of long-term competitive advantage lies in achieving sustainability above the industry average profit level. (3) Long-term competitive advantage is also a market performance, a result, and a state, and therefore can be measured by constructing indicators.

3. The impact mechanism of digital capability on the sustainable development of enterprises

3.1. Digital capability contributes to the construction of long-term competitive advantages

Through the construction of digital channels and the promotion of digital marketing, enterprises can accurately grasp the dynamic changes in market demand, match well with consumer needs, and obtain timely and accurate feedback. The application of digital technology in intelligent production and manufacturing greatly improves the productivity of enterprises, enabling them not only to understand the "demands" of consumers, but also to efficiently and qualitatively "supply", ensuring a corresponding supply and demand, and improving customer satisfaction and happiness. At the same time, intelligent support and control can effectively avoid personnel or mechanism redundancy, fully utilize digital information for resource allocation and organizational structure adjustment, and improve the management efficiency of enterprises.

Rethinking and allocating internal resources of enterprises from a digital perspective, as well as restructuring organizational structures, can help eliminate accumulated drawbacks and revitalize enterprises from a fundamental perspective. Innovation in existing products, business models, and other aspects can help enterprises align with the dynamic changing market environment and enhance their development potential based on adaptation. In addition, digital venture capital and incubation help enterprises cultivate new technologies and products, transform innovation potential into innovation output, implement enterprise innovation strategies and ideas, and thus differentiate or even surpass competitors.

3.2. Long-term competitive advantage can promote sustainable development of enterprises

Long-term competitive advantage is the uniqueness of a company compared to other competitors in the industry. Enterprises have long-term competitive advantages and stable progress in the industry is a necessary condition for sustainable development. How enterprises can promote sustainable development by obtaining long-term competitive advantages can be explored from five dimensions of sustainable development.

Firstly, employees are the most fundamental and precious resource of a company, and the level of human resources in the company has a critical impact on sustainable development. Enterprises that have obtained long-term competitive advantages are relatively complete in terms of personnel allocation and talent structure. The stability and quality of enterprise personnel are high, which can continuously and effectively create value for the enterprise. In the process of obtaining long-term competitive advantages, not only the personnel are constantly optimized, but also the enterprise's Talent management system is constantly optimized and improved, laying a good foundation for the sustainable development of the enterprise. Secondly, when enterprises gain competitive advantages in the digital context, they are bound to absorb the strengths of various parties to make up for their shortcomings or explore emerging technologies. Enterprises with long-term competitive advantages have a strong ability to utilize resources, and technology, and integrate internal and external environments. Their technological innovation ability is also superior to competitors, and they can go further. Thirdly, competitive advantage refers to the ability of enterprises to achieve profits that exceed the average level within the industry, and their economic strength level will be improved. In the process of obtaining a competitive advantage, the more money they earn, the higher their economic strength level will be, providing a solid guarantee for the development of the enterprise. Fourthly, to gain long-term competitive advantages, enterprises must observe and adapt to the complex and ever-changing market environment. In the process of operation and development, their adaptability to the market will be enhanced. Enterprises with long-term competitive advantages will have a higher market share and position in the minds of consumers and can obtain more feedback and resources compared to competitors, thus having stronger market adaptability. Fifthly, enterprises with long-term competitive advantages can attract high-quality management talents.

3.3. Digital capability promotes sustainable development of enterprises through the construction of long-term competitive advantages

Digital capabilities include digital operations and digital innovation. Digital operations refer to the use of digital technology to develop digital solutions for research and development, production, management, and marketing. Digital innovation is the recombination of digital resources by different entities. The expansion of digital channels and Big data technology can help enterprises grasp market demand in a timely and accurate manner. Digital marketing can speed up brand promotion. Intelligent

production and management and control can improve the productivity of enterprises, so that enterprises can know what to supply and supply quickly, with quality and quantity guaranteed, and can obtain feedback in time to improve. Therefore, digital operations can help enterprises gain long-term competitive advantages through the above methods. Enterprises rely on digital resources, Big data technology, and other digital elements to innovate their products, services, business models, technologies, and other aspects, help enterprises to integrate with the digital environment, stimulate innovation potential in an all-round way from personnel management to business models, and implement it through digital venture capital and incubation. Therefore, digital innovation can help enterprises have uniqueness and stronger competitiveness, enabling them to gain long-term competitive advantages.

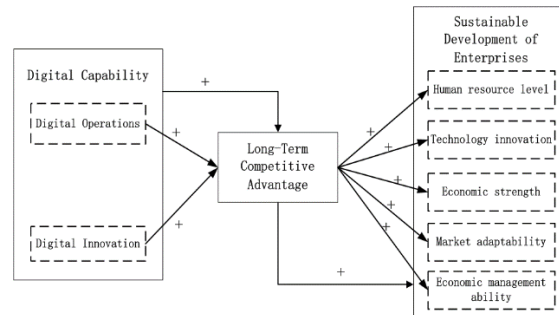


Figure 1: Impact Mechanism Model

According to the dynamic capability theory, the new capabilities generated by enterprises in rapidly changing environments can create and maintain a competitive advantage over other enterprises in the industry, thereby assisting the sustainable development of enterprises. The specific impact mechanism is shown in Figure 1. Digital capability belongs to the dynamic ability of enterprises to effectively develop and implement new opportunities in the digital economy era. By helping enterprises gain long-term competitive advantages, it can increase their economic benefits and thus enhance their economic strength. In the process of obtaining long-term competitive advantages, the talent structure and quality of the enterprise are continuously optimized, the management system of the enterprise is updated and replaced, and the leading force is continuously strengthened, thereby achieving sustainable human resource levels and enhancing the enterprise's management capabilities. Digital innovation enables enterprises to continuously enhance their technological innovation capabilities in the process of obtaining long-term competitive advantages. Through digital operations, enterprises can accurately and timely obtain market information and feedback, and quickly and effectively adjust their products and services, production and operation, marketing strategies, and other aspects. After forming a long-term competitive advantage, it can significantly enhance the enterprise's market adaptability and assist in its sustainable development. From this, it can be seen that digital capabilities promote the sustainable development of enterprises through the construction of long-term competitive advantages.

4. Management inspiration

Based on the impact mechanism of digital capabilities on the sustainable development of enterprises, this study proposes the following management suggestions.

Firstly, enterprises should establish a guidance and control system for digital operations to pay comprehensive attention to their digital operations. Digital operations refer to the use of digital technology by enterprises to allocate internal and external resources for intelligent production and manufacturing, precise channel expansion, and timely information feedback. Compared to traditional operations, it is more flexible, technical, and innovative. The enterprise should build a guidance and control system for Digital transformation based on its business scope, basic strength, and needs, evaluate the rationality and risk of the digital operation mode, and timely follow up and monitor the implementation process to prevent the problem of "too big a step".

Secondly, enterprises should focus on the long-term cultivation of digital innovation capabilities, cultivate digital specialized talents, and help enterprises possess core technologies. The cultivation of digital innovation ability is not overnight, and the ability of enterprises to innovate products, services, and business models needs to be learned and cultivated. Enterprises should first examine and restructure their internal resources and organizational structure from a digital perspective, to revitalize the enterprise from a fundamental level; Furthermore, it aims to cultivate digital specialized talents, innovate existing products, business models, and other aspects, to help enterprises align with the dynamically changing market environment and enhance their development potential based on adaptation.

In addition, enterprises should focus on transforming long-term competitive advantages into inexhaustible driving forces for sustainable development. Research has shown that enterprises have long-term competitive advantages and stable progress within the industry is a necessary condition for sustainable development. It can promote the sustainable development of enterprises from five aspects: human resources, technological innovation, economic strength, market adaptation, and business management. Therefore, enterprises should focus on transforming their uniqueness into a source of driving force for long-term and sustainable development. Under the guarantee of economic strength, the talent structure of the enterprise is continuously optimized, and the digital capability of the enterprise continuously improves its technological innovation ability. Through the talent and technology of the enterprise, the market adaptability and management ability of the enterprise are continuously improved, and the long-term competitive advantage built by digital capability helps promote the sustainable development of the enterprise.

5. Conclusion

Scholars have explored the antecedents of sustainable development in enterprises, and business management practices have shown that digital capabilities are crucial in this ever-changing era. However, academic research based on the micro level of enterprises is relatively lacking. Therefore, this study is based on the dynamic capability theory and explores the impact mechanism of digital capabilities on the sustainable development of enterprises from the perspective of long-term competitive advantage acquisition. And this study attempts to provide management suggestions for "How can digital capability promotes the sustainable development of enterprises".

This study indicates that digital capability can effectively assist enterprises in achieving sustainable development, and long-term competitive advantages play an important role in this process. Specifically, digital capability help enterprises build long-term competitive advantages, and having long-term competitive advantages is a necessary condition for the sustainable development of enterprises. According to the dynamic capability theory, new capabilities (digital capability) generated by enterprises in rapidly changing environments can create and maintain a competitive advantage compared to other enterprises in the industry, thereby contributing to the sustainable development of enterprises.

In addition, based on the impact mechanism of digital capability on the sustainable development of enterprises, this study suggests that enterprises should pay comprehensive attention to the digital operation situation of enterprises, focus on the long-term cultivation of digital innovation capabilities, cultivate digital specialized talents, help enterprises improve their digital capabilities in the form of core technologies, and gain long-term competitive advantages by constructing a guidance and control system for digital operations. Enterprises also need to focus on transforming long-term competitive advantages into an inexhaustible driving force for sustainable development.

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