

Study on the Role Mechanism and Influence Effect of Digital Transformation on OFDI of Enterprises

Xuanrong Qi

School of International Trade and Economics, Anhui University of Finance & Economics,
Bengbu Anhui 233030, China.

Abstract

OFDI not only helps enterprises to overcome the constraints of variable costs such as freight costs and access to a wide range of overseas customer resources and markets, but also accelerates their R&D process, increases their business scope and export scale, and becomes an important channel for enterprises to improve their economic efficiency. Digital transformation can help enterprises invest in foreign countries and acquire advanced production factors and assets, which undoubtedly becomes an exclusive advantage. In the digital economy has become the focus of the world's economic development, digital transformation has become the key point of enterprise development, China urgently needs relevant research to explore the impact of digital transformation on enterprise OFDI. Based on this, this paper provides a theoretical explanation and path analysis of the effect of digital transformation on OFDI decision-making from the enterprise level, and provides rationalized suggestions for OFDI of enterprises in the digital economy environment from the perspectives of macro-policy and micro-enterprises based on the findings of the study, which to a certain extent can enrich the research on the cross-cutting fields of digital transformation and OFDI.

Keywords

Digital transformation, corporate OFDI, mechanisms of action, impact effects.

1. Introduction

The report of the twentieth CPC National Congress points out that the Party will accelerate the construction of a new development pattern, strive to promote high-quality development, and promote high-level opening up to the outside world. Promote the high-quality development of the "Belt and Road". Nowadays, when the digital economy has become the focus of the world's economic development and digital transformation has become the key point of enterprise development, China urgently needs relevant research to explore the impact of digital transformation on enterprises' foreign direct investment. The Outline of the Fourteenth Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the Vision 2035 proposes to "give full play to the advantages of massive data and rich application scenarios, promote the in-depth fusion of digital technology and the real economy, empower the transformation and upgrading of traditional industries, give rise to new industries and new business models, and strengthen the new engine of economic development. In the context of the increasingly close relationship between supply and demand and deepening interdependence, enterprises are actively seeking digital transformation to seek more development momentum for the enterprise. Therefore, from the micro enterprise level combined with digital transformation, research on its impact on enterprise OFDI is of great practical significance in guiding enterprises to give full play to the revenue effect brought by digital transformation, improve the core competitiveness of enterprises, and promote the sustainable development of enterprises, and provide references for enterprises to scientifically implement digital transformation and rationally formulate OFDI decisions.

2. Literature review

In the research on the impact of enterprise digital transformation on the competitive advantage of enterprises, the main focus is on the impact of digital transformation on enterprise products and services, on enterprise processes, and on business models. Combined with on the basis of the research of Matt et al. (2015), Qi Yudong and Xiao Xu (2020), digital transformation is defined as: digital transformation is the integration of digital technology into the development of the industry, to bring about a change in the resource base and capacity enhancement of the industry in the research and development, design, procurement, production, distribution, marketing and service. In the process of digital transformation, digitalization is the focus and process, and achieving transformation is the purpose and result. The digital transformation strategy can only have the effect of enhancing the bargaining power of the enterprise when it is appropriate for the enterprise (Zhai, Huayun, and Lewis, 2023). In addition, some other research perspectives focus on the macroeconomic impact of digital transformation. Digital transformation can significantly enhance the green innovation efficiency of manufacturing enterprises, which is more significant in the samples of state-owned enterprises and heavily polluting enterprises; digital transformation improves the green innovation efficiency of enterprises through two channels, namely, strengthening media supervision and applying virtual simulation technology (Liu Chang et al., 2023). Accompanied by the deepening application of digital technology, accelerating the digital transformation of traditional industries has become the focus and key to deepening the supply-side structural reform, promoting the high-quality development of the manufacturing industry, and further growing the development of the digital economy (Lv Tie, 2019), in the era of the digital economy, the digital transformation of enterprises is an important engine to drive the high-quality development of the economy, and the digital transformation of manufacturing enterprises is the digital transformation of traditional industries. main battlefield (Zhang Li et al., 2021).

In the research on the influencing factors of enterprise OFDI, it mainly focuses on the perspective of influencing factors such as enterprise productivity level. On the whole, Chinese enterprises carry out OFDI with their own unique development purposes and investment motives (Yang Yaping and Wu Zhuhong, 2019), and academics have recognized that there are three main types of OFDI motives for Chinese enterprises: market-seeking, resource-seeking, and strategic asset-seeking (Bijun Wang, 2013; Yuyuan Wen and Yuqian Yang, 2021). OFDI is affected by a variety of factors, at the micro enterprise level, Helpman et al. (2003) proposed through theoretical modeling that enterprises have higher productivity to be able to choose between trade and investment choices to invest in foreign markets. Scholars have since explored, based on this research, that uncertainty in either productivity or productivity levels can have an impact on firms' OFDI decisions (Yalcin & Sala, 2014). Domestic scholars Zhou Mao et al. (2015) and Jiang Guanhong (2015) used data from Chinese firms' hierarchies to confirm that Chinese firms' investment decisions are closely related to firms' productivity levels.

3. Analysis of the theoretical mechanisms of digital transformation on OFDI by enterprises

3.1. Reducing Information Costs and Expanding Market Boundaries

3.1.1. Changes in information access and processing

Traditional enterprises face serious information asymmetry problems when considering OFDI. Information on the politics, economy, culture and laws of the target market is scattered and difficult to obtain, and enterprises need to spend a lot of resources on research. Digital transformation has dramatically changed the way information is acquired and processed through technologies such as big data and artificial intelligence. For example, companies can

utilize big data analysis tools to collect massive amounts of market information in real time from global online platforms, social media, industry databases and other channels. This information covers the preferences of consumers in the target market, the dynamics of competitors, and the changing trends of market demand. Artificial intelligence algorithms are able to quickly screen, classify and analyze these complex data to extract valuable information and provide accurate support for business decision-making.

3.1.2. Expansion of market reach

Reducing information costs allows companies to break through geographical constraints and discover more potential overseas market opportunities. In the past, due to the lack of information, enterprises could only limit their investment to a few familiar regions. With digital transformation, enterprises can leverage Internet platforms to promote their products or services to all corners of the globe. The rise of cross-border e-commerce platforms is a typical example. Through these platforms, SMEs are able to directly reach consumers around the world and realize product exports and business expansion without the need to set up complex sales networks in target markets. This provides a broader space for enterprises' regional choices for OFDI and facilitates their search for optimal investment locations globally in order to gain access to resources, technology or market share.

3.2. Enhance the core competitiveness of enterprises and investment advantages

3.2.1. Increased capacity for innovation

Digital transformation promotes profound changes in all aspects of research and development, production and management within enterprises, thereby enhancing their innovation capabilities. In R&D, digital technology provides enterprises with tools such as virtual simulation and collaborative design. Enterprises can simulate the performance of product testing through virtual simulation technology in the product development stage, reduce the cost and time of physical prototyping, rapid iteration of product design. At the same time, with the help of the Internet platform, enterprises can collaborate and innovate with research institutions, universities, suppliers, etc. on a global scale, integrating the advantages of all the resources to develop more innovative products or services. For example, some automobile manufacturers use digital technology to realize real-time collaboration between global R&D centers, and work together to overcome the key technical problems of new energy vehicles. This improved innovation capability has given enterprises a stronger differentiated competitive advantage in the international market and provided strong support for outward foreign direct investment.

3.2.2. Improvement of production efficiency and quality

In the production chain, digital transformation has brought about the development of intelligent manufacturing. The application of automated production lines, industrial robots, Internet of Things (IoT) and other technologies has realized the precise control and optimization of the production process. Production equipment is connected in real time through the Internet of Things and is able to collect production data automatically. Enterprises use data analysis technology to monitor and adjust the production process, identify and solve problems in production in a timely manner, and improve production efficiency and product quality. For example, Foxconn and other manufacturing enterprises have introduced a large number of industrial robots to achieve a high degree of automation of the production line, which not only improves production efficiency, but also reduces labor costs and product defective rate. Efficient, high-quality production models enable enterprises to quickly establish a competitive advantage in target markets and better meet local market demand when investing directly abroad.

3.3. Promoting industrial upgrading and global value chain reconstruction

3.3.1. Intrinsic motivation for industrial upgrading

Digital transformation prompts enterprises to continuously carry out technological innovation and business model innovation, and pushes them to move towards high-end industries and realize industrial upgrading. Through the introduction of digital technology, enterprises have transformed traditional industries to enhance product value-added and production efficiency. For example, through digital transformation, the traditional manufacturing industry has developed in the direction of intelligent manufacturing and green manufacturing, realizing the extension from low value-added processing and manufacturing to high value-added R&D, design, brand marketing and other links. Such industrial upgrading has elevated the position of enterprises in the global value chain and enhanced their competitiveness in the international market. In order to further acquire high-end resources, technologies and markets, enterprises have a stronger incentive to make outward foreign direct investment, lay out their industrial chains globally and optimize resource allocation.

3.3.2. Reconfiguration of global value chains

At the macro level, digital transformation has promoted the adjustment of the global industrial landscape and the reconstruction of global value chains. The development of digital technology has given rise to a series of emerging industries, such as big data, cloud computing, artificial intelligence and e-commerce. These emerging industries occupy an important position in the global value chain and have become the focus of competition among countries. Traditional industries are also undergoing changes and upgrading under the influence of digital transformation. In this process, enterprises participate in the reconstruction of the global value chain by integrating their advantageous links with resources and markets in other regions of the world through OFDI. For example, through OFDI, enterprises in some developed countries have set up R&D centers in regions with high-quality talents, transferred manufacturing to developing countries with lower costs, and used digital technology to realize efficient synergy among all links of the industrial chain and build up a global value chain system with themselves at the core.

4. Research on the impact effect of digital transformation on OFDI of enterprises

4.1. Cost reduction effects

4.1.1. Sharp reduction in the cost of access to information

When traditional enterprises carry out OFDI, they need to spend a lot of manpower and OFDI, they need to spend a lot of manpower, material and financial resources to collect all kinds of information about the target market. From the political situation, economic policies to cultural practices and market demand, the information is scattered and difficult to obtain. Digital transformation, however, leverages technologies such as big data and search engines to make information acquisition efficient and cost-effective. Through specialized business databases and online platforms, companies can quickly access detailed data on markets around the world, including consumer preferences, competitor dynamics, industry trends and other key information. For example, an apparel company planning to expand its market overseas can use big data analysis tools to collect data on consumers' fashion preferences and purchasing behaviors in the target market from social media, e-commerce platforms, and other channels, without having to send a large number of researchers on site as in the past, which greatly reduces the cost of information acquisition.

4.1.2. Reduction of communication and coordination costs

Cross-border investment involves frequent communication and coordination between corporate headquarters and overseas subsidiaries and partners in different regions. Digital transformation has brought about advanced means such as instant messaging tools, video conferencing systems and project management software. Through these tools, enterprises can realize real-time communication on a global scale, breaking the time and space limitations. No matter whether it is daily work communication or major project decision-making, personnel from all parties can quickly reach consensus through video conferencing, avoiding communication delays and high costs due to business trips, time differences and other factors. For example, in the process of project promotion, multinational construction enterprises utilize project management software to collaboratively manage construction teams, designers and suppliers distributed in different countries, track project progress, assign tasks and coordinate resources in real time, effectively reducing communication and coordination costs and improving project execution efficiency.

4.2. Competitiveness enhancement effects

4.2.1. Strengthening of innovation capacity

Digital transformation has injected a strong impetus for enterprise innovation. In the research and development process, enterprises use digital tools such as virtual design and simulation to quickly verify and optimize various design solutions in the early stages of product development, shorten the research and development cycle, and reduce research and development costs. At the same time, digital technology promotes collaborative innovation between enterprises and research institutions, universities and other enterprises worldwide. Through the Internet platform, enterprises can integrate innovation resources from all parties and carry out cooperative R&D projects. For example, Huawei, by building a global R&D network and utilizing digital technology to realize real-time collaboration with research teams in various countries to jointly overcome communication technology problems, has continuously launched innovative products and solutions, enhanced its competitiveness in the global communication market, and laid a solid foundation for its investment and expansion in overseas markets.

4.2.2. Improvement of production efficiency and quality

The wide application of intelligent manufacturing technology is an important manifestation of digital transformation to enhance enterprise competitiveness. The deep integration of automated production lines, industrial robots and technologies such as the Internet of Things (IoT) in the production process realizes the precise control and intelligent management of production. Production equipment through the Internet of Things real-time collection of production data, enterprises use data analysis technology to monitor and optimize the production process, timely detection and resolution of production problems, improve production efficiency and product quality. Take automobile manufacturing enterprises as an example, after the introduction of digital production system, industrial robots on the production line can accurately complete a variety of complex assembly tasks, production efficiency has increased dramatically, and the rate of defective products has been significantly reduced. The high-quality and high-efficiency production model gives enterprises a more competitive edge in the international market, and enhances their confidence and strength in foreign direct investment.

4.3. Market expansion effects

4.3.1. Discovering new overseas market opportunities

Digital transformation enables companies to break through traditional market boundaries and discover new overseas market needs through the Internet and big data analysis. By using digital platforms to mine and analyze global market data, enterprises are able to pinpoint market

segments that were previously overlooked or underdeveloped. For example, some enterprises focusing on niche products have discovered potential demand for their specialty products in certain countries or regions through cross-border e-commerce platforms, thus opening up new overseas markets. This keen capture of new market opportunities provides enterprises with more options for outward foreign direct investment, and promotes the optimization of resource allocation and expansion of their business territories on a global scale.

4.3.2. Enhancing the international influence of brands

The abundance of digital marketing tools provides strong support for enterprises to enhance the international influence of their brands. Through social media, search engine optimization, content marketing and other digital channels, enterprises are able to spread their brand messages to all parts of the world at a lower cost. Through careful planning and dissemination of attractive brand stories and product information, enterprises are able to create a unique brand image in the international market and attract more attention from overseas consumers. For example, by releasing product information on global social media platforms, organizing online launch events and other digital marketing activities, Xiaomi has rapidly enhanced its brand awareness and reputation in the international market, creating favorable conditions for its investment and business expansion in overseas markets. The strong international influence of the brand helps the enterprise to gain consumer recognition and increase its market share in overseas markets, which in turn drives the enterprise to further increase its foreign direct investment.

4.4. Investment decision optimization effects

4.4.1. provide accurate data support

Accurate data is key in the OFDI decision-making process. Digital transformation enables enterprises to collect massive market data, industry data and target enterprise data from , and use data analysis technology to conduct in-depth mining and analysis of these data. By building investment decision models, enterprises can quantitatively assess the risks and returns of different investment projects, providing a scientific basis for decision-making. For example, when an enterprise is considering an M&A investment in an overseas enterprise, it can more accurately judge the feasibility and potential value of the investment project by analyzing multi-dimensional data such as the target enterprise's financial data, market share, and technological innovation ability, and combining it with its own development strategy, so that it can avoid blind investment and improve the accuracy and success of the investment decision.

4.4.2. Enhancing risk early warning and response capacity

Digital technology also provides enterprises with strong risk warning and response capabilities for OFDI. Through real-time monitoring of global political, economic and market dynamics data, enterprises are able to identify potential investment risk factors in a timely manner and predict the development trend of risks through data analysis. Once the risk occurs, enterprises can use the digital platform to quickly adjust their investment strategies and take corresponding countermeasures. For example, when the international exchange rate fluctuates significantly, enterprises can use digital financial tools for hedging operations to reduce the impact of exchange rate risk on investment returns. This risk warning and response mechanism based on digital technology enables enterprises to deal with various uncertainties more comfortably in the process of OFDI, and guarantees the soundness of investment activities.

5. Recommendations for responses

5.1. Enhanced digital integration of strategic planning and investment decision-making

Enterprises should closely integrate their digital transformation strategies with their OFDI strategies. Before making outbound investment plans, analyze in-depth the level of digital development, the state of digital infrastructure and potential digital cooperation opportunities in the target market. By building a digital investment decision model, comprehensively consider the cost reduction space, market expansion potential and competitiveness enhancement effect of the investment project under digital empowerment. For example, we use big data to analyze the trend of consumer demand for digital products or services in the target market, and use this as the basis for screening investment projects to ensure that investment decisions meet the market demand in the digital era and improve the success rate of investment.

5.2. Increase investment in R&D and application of digital technology

On the one hand, enterprises should increase capital and human resources investment in digital technology research and development, and independently research and develop digital tools suitable for their OFDI business needs, such as cross-border supply chain management systems and international market data analysis platforms. On the other hand, they should actively introduce mature digital technologies, such as artificial intelligence, blockchain, cloud computing, etc., and apply them to all aspects of OFDI. For example, blockchain technology is utilized to improve the security and transparency of cross-border transactions and reduce transaction risks; cloud computing is used to realize efficient storage and processing of global data and enhance the efficiency of enterprise operations. Through technology development and application, the digital competitiveness of enterprises in OFDI will be enhanced.

5.3. Cultivating digital composite talents

Enterprises' OFDI requires composite talents who know both international business and digitalization skills. To this end, enterprises should formulate a comprehensive talent training program. On the one hand, cooperate with universities and professional training institutions to carry out customized training courses for digital talents, covering the application of digital technology, cross-border e-commerce operation, international digital marketing, etc., and provide digital skills upgrading training for existing employees. On the other hand, it actively introduces international business talents with digital background to enrich the talent team of the enterprise. At the same time, it establishes a good talent incentive mechanism to retain excellent digital composite talents and provide solid human resources protection for the digital transformation of the enterprise's OFDI.

5.4. Strengthening digital infrastructure and cooperation

For enterprises investing overseas, it is important to emphasize the construction of digital infrastructure in the target market. If the investment project involves manufacturing, it should ensure that the factory is equipped with advanced Internet of Things (IoT) equipment to realize digital monitoring and management of the production process; if it is engaged in the service industry, it should ensure high-speed network coverage in the office to enhance the efficiency of the digital office. In addition, actively cooperate with local digital enterprises and research institutions to jointly promote the improvement of digital infrastructure and the application of digital technology innovation. For example, cooperate with local telecom operators to improve the quality of network communications, and cooperate with research institutions to carry out R&D projects on digital technologies, so as to improve the digital operation level of enterprises overseas with the help of external forces.

5.5. Building a digital risk prevention and control system

In the process of OFDI, although digital transformation brings opportunities, it is also accompanied by new risks, such as cybersecurity risks and data leakage risks. Enterprises need to build a perfect digital risk prevention and control system. Establish a network security protection mechanism, equip a professional network security team, and conduct regular security testing and vulnerability repair of the enterprise's information system to prevent hacker attacks and data leakage. At the same time, it formulates data protection policies, specifies security norms in the process of data collection, storage, use and transmission, and complies with relevant laws and regulations of the target market. Through the risk early warning mechanism, it monitors the operation of digital investment projects in real time, discovers and responds to potential risks in a timely manner, and guarantees the safe and stable conduct of the enterprise's OFDI activities.

6. Conclusion

Digital transformation profoundly affects enterprises' outward foreign direct investment. In terms of its mechanism, it reduces information costs with big data, enhances competitiveness with innovative technologies, expands markets with digital platforms, and optimizes decision-making with intelligent tools. In terms of impact effect, it brings positive results such as cost reduction, competitiveness enhancement, market expansion and optimization of investment decision-making, providing strong support for enterprises' global market layout, prompting enterprises to seize opportunities in OFDI and achieve more efficient and sound cross-border development, and becoming a key driving force for enterprises' international competition in the era of digital economy.

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