The Impact of Enterprise Digital Transformation on the Foreign Investment Strategy of Enterprises

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Abstract. The development potential of the digital economy is huge, which has triggered new thinking on the understanding of the digital economy in various industries. More and more enterprises have carried out digital transformation and achieved certain results. There are many factors that affect the foreign direct investment of enterprises. This essay combines the development of the digital economy to study the impact of the digital transformation of enterprises on the foreign investment strategy of enterprises. The first part of this essay is the introduction, which introduces the background and significance of the topic of the essay. The second part is a literature review, which mainly includes a summary and comment on the literature related to the digital transformation of enterprises and the entry strategy of foreign direct investment. The third part analyzes the data, defines the types of variables and analyzes the relationship between the variables, and explains the results obtained. The fourth part is the conclusion, which summarizes the results found in the essay, and puts forward relevant suggestions for Chinese enterprises and explains the limitations of this essay.

Keywords: digital transformation foreign direct investment investment strategy

1 Introduction

Today, the digital economy is in a rapid development stage and China has entered a new era of digital economy development. 2021, China's 14th Five-Year Plan mentions accelerating digital construction, and the report mentions, "We should embrace the digital era, activate the potential of data elements, promote the construction of a strong network country, and accelerate the construction of a digital economy, digital society, digital government due to the fact that digital transformation overall drives the way of production, way of life and governance change." At present, the digital economy has risen to the level of national strategy, accelerating the substantial development of China's digital economy, so the role and development of the digital economy cannot be ignored.

As a powerful engine for the development of digital economy, industrial digitalization of enterprises has a more profound significance and should be accelerated. The

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"Made in China 2025" plan was announced to lead China to shift from a large manufacturing country to a strong country. China is now moving from a large manufacturing country to a strong manufacturing country. With a large population base and a wide variety of industries, industrial digitalization has greater significance for China's industrial transformation and upgrading.

At present, many companies are actively engaged in digital transformation. For example, the TASLY GROUP, a company with its main line of business in the health industry and its focus on biopharmaceuticals, is in the process of digital transformation, realising that it must use digital tools to achieve seamless end-to-end business integration and process coherence, centralize the entire industry chain on a big data platform and create a "talking Chinese medicine". He Fan et al. [1] proposed that digital transformation is imminent for Chinese enterprises and that digital transformation of physical enterprises can bring positive economic consequences, i.e., digital transformation of physical enterprises can significantly improve business performance.

When companies undergo digital transformation, they also change the international business environment. In the context of the digital transformation of companies, the availability of digital tools makes it possible to communicate efficiently all over the world. In terms of location selection for OFDI, there are more channels to understand the target of the investment, and it is possible to view digital models, video calls, etc. instead of seeing it actually, especially in the current global environment of the COVID-19, digital transformation becomes more meaningful. The digital system allows for a more efficient presentation of the characteristics of the investment target, and each company can more comprehensively consider whether to choose an OFDI entry strategy of greenfield investment or cross-border M&A based on different considerations.

Based on this, this paper researches on how a firm's digital transformation has an impact on the entry strategy of a firm's OFDI. There is a role between the two, but the relationship between the two has been little studied in academia, and this paper will use data from the CSMAR database on listed companies to conduct the study.

2 Literature Review

2.1 A study on Digital Transformation of Enterprises

Xiao Jinghua [2] emphasizes that enterprise digital transformation is both a microcosmic manifestation of the deep integration of informatization and industrialization at the industrial level and an innovative symbol of moving from an industrialized system to a digital system at the enterprise level, in line with the requirements of the 19th Party Congress report, so enterprise digital transformation is the focus of current development. Similarly, Chen Chunhua [3] emphasizes in his study that the most important thing at present is that every traditional enterprise needs to join the queue of digital transformation as soon as possible; otherwise, it will be eliminated by the times. A study made by Sun Guoqiang et al. [4] showed that in the process of searching for external resources, enterprises with obvious digital advantages become the focus of cooperation, and a nucleated enterprise network is formed around this core node, and each node of this enterprise network has diverse and complementary digital characteristics.

Through the study, He Fan et al. [1] found that digital transformation is significantly and positively related to the return on total assets of enterprises, which preliminarily indicates that the implementation of digital transformation strategy based on innovation-driven development is conducive to the improvement of economic efficiency of real listed companies. Digital transformation, as a result of diversified innovations that catalyze business transformation, has special significance for the development and efficiency improvement of the entity enterprises themselves. Hu, Qing [5] found that digital transformation of enterprises in the context of digital economy is imperative. However, from a practical point of view, except for a few enterprises that have gained operational effectiveness through digital transformation, most enterprises still face transformation dilemmas. Wen Qiang [6] also found this problem, and he proposed the misunderstanding and response of enterprises in the process of digital transformation, pointing out that some enterprises currently have unclear connotation of enterprise, unclear understanding of the relationship between data and enterprise and unclear understanding of how to transform when digital transformation, and accordingly put forward corresponding suggestions, such as enterprises do a good job of strategic positioning, do a good job of core business and improve technology as support. Li Hui et al. [7] pointed out the mechanism of digital transformation of enterprises, the digital economy has become a new engine to drive the economic growth of countries, and more and more enterprises have opened the road of digital transformation, and according to the mechanism of digital transformation of enterprises, the path selection of digital transformation of enterprises is proposed, as well as some countermeasure suggestions for digital transformation of enterprises. In their study, Wu, Fei et al. [8] found that the government is also an important factor driving the digital transformation of enterprises, where financial technology spending is an important policy instrument for the government to support enterprises and this instrument can significantly drive the digital transformation of enterprises and bring performance improvement to them. Digital transformation of enterprises is equally important in SMEs. Li Wei et al. [9] proposed the need for digital transformation of SMEs in the current situation of the COVID-19, and Li Gang et al. [10] similarly pointed out that SMEs in China face opportunities for development in the context of the global COVID-19.

2.2 A study on the Entry Strategy of Corporate OFDI

Hu Zhaohui [11] emphasizes that with the rapid development of China's economy and the remarkable enhancement of comprehensive national power, it is an inevitable strategic choice for Chinese enterprises to implement the strategy of going out and expanding OFDI. OFDI is an important part of China's open economy strategy, and it is also an inevitable choice for China's economy to mature and enhance its international competitiveness. Si Chuanyu [12] proposed that the determinants of private enterprises' location choice when making OFDI are sensible trade-offs of transaction costs, clear strategic objectives and local adaptation to the actual situation, respectively. Jiang Guanhong [13] found that the availability of "transferable advantages" is an important factor influencing Chinese companies' choice of cross-border M&A, joint venture or greenfield new construction when entering countries along the "Belt and Road". Helipitim

Abibullah et al. [14] found through their research that if the host country has a strong preference for foreign greenfield new investment and gives greater investment facilities, whether it is capital-intensive enterprises or labor-intensive enterprises, they all adopt international new investment strategies to enter overseas markets, and the final market reaches all types of enterprises in the local greenfield new; on the contrary, when the host country provides less investment facilities for foreign investors in greenfield new investment, the market does not show all types of enterprises or some of them adopt some kind of OFDI entry mode. Jiang Guanhong [13] concluded through his study that enterprises are influenced by the production and operation status of the company when choosing the entry mode for OFDI. Xue Jun [15] proposed that there are two main factors that influence MNCs' FDI entry choices, which are divided into political, economic and socio-cultural factors related to the host country and whether MNCs themselves have intellectual property advantages. Zhou Jing et al. [16] found through their analysis that for Chinese multinational enterprises, especially large state-owned enterprises, when investing overseas, if they have certain technological and resource advantages, it is better to be able to choose a shared equity model and adopt a joint venture approach to learn by doing, thus reducing the probability of failure.

2.3 Review of the Literature

By summarizing the relevant studies, it can be found that the existing literature has deeply recognized the importance of digital transformation with enterprises, as well as the problems that enterprises may encounter in digital transformation and the relevant countermeasure suggestions based on the problems. In terms of the OFDI entry strategies of enterprises, the current studies have clarified the factors affecting the entry strategies of enterprises from multiple perspectives, such as the host country factors and the enterprises' own factors.

However, through collation, it is found that there are fewer analyses of the impact of digital transformation of Chinese enterprises on the entry strategy of OFDI. Since the process of digital transformation of enterprises is currently accelerating, the information cost of communication between enterprises is reduced with the help of digital tools, which can make enterprises more responsive to the problems they face when making investments in host countries and change the entry strategy of OFDI. Therefore, this paper explores the relationship between digital transformation and entry strategies of firms through previous studies and quantitative analysis with data.

3 Research Hypothesis

Digital levels increase along with the company, the parent company has diversified the way it controls its subsidiaries. Corporate enterprises generate data insights from massive amounts of data to make real-time and correct decisions, continuously improve customer experience, strengthen core business, accelerate innovation of corporate products and services, explore new market opportunities with the power of digital technology, and now with the restricted movement of people and goods due to the COVID-19,

the importance of digital tools is again demonstrated. Based on this, hypothesis 1 is proposed: the degree of digitization will reduce the entry of firms into the host country by means of direct investment.

There are still some challenges in the digital economy cooperation between Chinese companies and BRICS countries, and the digital divide between different communities within BRICS countries is currently continuing to widen due to the different levels of ownership of information and network technologies, the use of technologies, and the difference in innovation capabilities [17] . Based on this, hypothesis 2 is proposed: the above effect is not significant in BRICS countries.

When a parent company invests in a "tax haven", it tends to export more capital to the company in the tax haven by direct investment for the purpose of tax avoidance. Based on this, hypothesis 3 is proposed: the above effect is not significant in the countries of tax haven.

High employee training costs imply that employees are more proficient in using digital tools, which helps companies achieve corporate digital transformation. Based on this, hypothesis 4 is proposed: the above effect is more significant within companies with high employee training costs.

4 Research Design

4.1 Explained variable

The explained variable of this paper is the entry strategy of enterprises in OFDI. When enterprises make OFDI, they will directly hold shares or indirectly hold shares in subsidiaries owned overseas. In this paper, the shareholding ratio of China's listed companies in overseas affiliates from 2010 to 2020 is selected as the dependent variable, and the required data are obtained from the CSMAR database.

4.2 Explanatory Variable

This paper uses the frequency of "blockchain technology" mentioned in the reports of listed companies as an indicator to measure the level of digital transformation of the company, which involves the protection and encryption of data in digital transformation, the application of blockchain technology has a more prominent role in digital transformation. The required data is obtained from the CSMAR database.

4.3 Control Variable

Controlling for other variables that affect digital transformation and firms' OFDI entry strategies, including gross operating income, profit, net profit, total assets, total liabilities, and Tobin's Q.

5 Research Data and Analysis

Table 1. Summary of Variable Meanings (Table credit: original)

Variable Type	Variable Name
Explained variable	Shareholding in subsidiaries
Explanatory variables	Frequency of the term "blockchain technology" in company reports
Control variables	Total assets
	Total liabilities
	Net Assets
	Total operating income
	Total Accrued Profit
	Tobin's Q

Table 2. Experimental results (Table credit: original)

	M0	M1	M2 (Tax Haven)	M3 (Non-tax haven)
Block-ChainTechnol-ogy		-0.169**	0.339	-0.202**
		(0.068)	(0.271)	(0.079)
lnasset	0.027	0.032	-0.553	0.087
	(0.119)	(0.119)	(0.462)	(0.115)
lnlia	0.334***	0.331***	0.682	0.275***
	(0.098)	(0.098)	(0.565)	(0.089)
ROA	0.243	0.224	-0.081	0.073
	(0.320)	(0.319)	(1.159)	(0.315)
TobinQA	0.015	0.014	0.062	0.008
	(0.024)	(0.024)	(0.062)	(0.025)
income	-0.000*	-0.000*	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
netprofit	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Industry	Controlled	Controlled	Controlled	Controlled
Year	Controlled	Controlled	Controlled	Controlled
_cons	-5.319***	-5.376***	1.025	-5.549***

	(1.952)	(1.948)	(8.888)	(1.884)
N	9297	9297	1183	8114
R2	0.039	0.040	0.092	0.038
adj. R2	0.038	0.038	0.078	0.036

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Standard errors in parentheses

	M4 (BRICS)	M5 (Non-BRICS)	M6
Block-ChainTechnol-ogy	-0.034	-0.193**	-0.068
	(0.209)	(0.080)	(0.114)
StaffTrain-ingCost			0.000***
			(0.000)
bc_stafftc			0.000*
			(0.000)
lnlia	0.786*	0.298***	0.476**
	(0.424)	(0.087)	(0.210)
ROA	1.738	-0.198	0.816
	(1.071)	(0.318)	(1.093)
TobinQA	0.020	0.016	0.126
	(0.046)	(0.023)	(0.094)
income	-0.000**	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
netprofit	-0.000	-0.000	-0.000**
	(0.000)	(0.000)	(0.000)
Industry	Controlled	Controlled	Controlled
Year	Controlled	Controlled	Controlled
_cons	-3.903	-4.553**	-3.400
	(5.793)	(1.948)	(3.868)
N	1680	7617	775
R2	0.095	0.039	0.102
adj. R2	0.085	0.036	0.078

* p < 0.10, ** p < 0.05, *** p < 0.01

For the first hypothesis, the validation that digitization reduces the entry of companies into the host country through direct investment is significant. The “PwC&” report (2020) suggests that the current environment is driven by the digitalization of companies due to the epidemic, 5G, and the development of artificial intelligence technologies. In the past, companies entered the host country through direct investment in order to strengthen the control of the parent company over the subsidiary and to better follow the strategic planning of the parent company. and in the past, mechanization and material materials were very important in the industrial economy, but now in the digital economy, intelligent tools and factors of production such as data and information play a more prominent role. Currently, the way companies enter host countries has changed through the use of digital tools. Companies can enter the host country by exporting goods directly, and thanks to the emergence of new methods such as "cloud office", "online inspection" and "contactless production". This breaks the space limitation and enables companies to negotiate with the host country anytime and anywhere, avoiding information asymmetry. With digital tools, data-driven business operations become the main line of business and can effectively reduce inventory turnover days. Enterprises with investment needs can also choose to enter the host country by technology licensing, providing the technology licensee with the necessary patents, trademarks or know-how, as well as the right to manufacture and sell products, and making it easier to transfer know-how through digital tools. The greater choice of direct export of products and licensing of technology into the host country also reduces the "learning cost" of entering through direct investment, and to a certain extent hedges the risk.

For the second hypothesis, the above effect is not significant in the BRICS countries. The current BRICS countries are: Brazil, India, Russia, China and South Africa. According to the BRICS Digital Competition Index, although China has a high level of digital development, other BRICS countries generally have the problems of poor infrastructure and insufficient IT penetration, high cost of building digital tools and difficulties in training personnel in poor areas, and in Brazil, a public opinion survey once showed that the public considered the vigorous promotion of digital infrastructure as a laborious which makes the impact of digital tools even smaller in the way our companies choose to invest abroad. Compared with other ways of investment, Chinese enterprises choose more direct investment into BRICS countries, which are developing countries with huge market potential and many unexplored areas in the host countries, and the host governments also uphold an open attitude toward foreign investment, for example, the South African government since January 2016, the annual production of more than 10,000 units of car manufacturers in the South can enjoy 10%-18% ranging from For example, since January 2016, the South African government has exempted car manufacturers in South Africa with an annual production of more than 10,000 units from import tariffs ranging from 10% to 18%; for car manufacturers with an annual production of more than 50,000 units, the South African government will exempt their parts from import tariffs. The deeper the degree of local production and the larger the scale of production, the greater the support of the South African government's policy for car manufacturers. This series of policies greatly reduces the cost of investment and

greatly attracts foreign companies to invest in South Africa. This shows that investments in BRICS countries are more influenced by policy and market factors and less correlated with the degree of digitization of companies.

For the third hypothesis, the above effect is not significant in tax havens. Many companies in China register their companies in tax havens, such as the Cayman Islands, where the government does not levy any direct taxes and corporate profits, capital gains, and personal income are not subject to tax. Therefore, many famous companies in China such as Tencent, Alibaba, Sohu and Netease are registered in the Cayman Islands. For the purpose of tax avoidance, the parent company generally adopts direct investment into the country where the "tax haven" is located to increase the inflow of capital, and some companies even set up the parent company directly in the Cayman Islands and other "tax havens" to achieve control of domestic capital, technology and personnel through direct investment in China. Therefore, the investment in a "tax haven" is more influenced by the purpose of tax avoidance and less related to the digitalization of the enterprise.

For the fourth hypothesis, the above effect is more significant in companies with high employee training costs. According to the current situation, digital tools are new, and companies need to pay more to train their employees to use them. The more costs paid indicate that employees in the company have a higher mastery of digital tools, which means that digital tools are widely used in the company, thus supporting more the first hypothesis that the degree of digitalization will reduce the access of companies to the host country through direct investment.

Table 3. Summary of results (Table credit: original)

Hypotheses	Results
Hypothesis 1: Digitization will reduce the entry of firms into the host country through direct investment	Support
Hypothesis 2: The above effect is not significant in BRICS countries	Support
Hypothesis 3: The above effect is not significant in countries that are tax havens.	Support
Hypothesis 4: The above effect is more significant within firms with high employee training costs	Support

6 Conclusion

Previous studies have shown that digital transformation has different effects on the operations of enterprises and that the entry strategy of Chinese enterprises in OFDI is affected by various factors, but the impact of digital transformation on the entry strategy of Chinese enterprises in OFDI has been less analyzed. Thus this paper makes a hypothesis to study the relationship that exists between the digital transformation of enterprises and the way Chinese enterprises enter the host country when making outward investments, and the results of the empirical tests support the following four hypothe-

ses: (1) Digitization reduces the entry of firms into host countries through direct investment (2) Digitization reduces the entry of firms into host countries through direct investment is not significant in BRICS countries (3) Digitization reduces the entry of firms into host countries through direct investment is not significant in tax haven countries (4) Digitization reduces the entry of firms into host countries through direct investment is more significant within firms with high employee training costs. In the current environment of digital transformation of enterprises, the application of artificial intelligence, 5G and augmented reality drive enterprises to take a more diversified approach to the host country. However, due to the current low level of digitalization in some less developed countries and regions. The BRICS countries are developing countries, and there is still a gap compared to developed countries, and the digital divide is growing, so the degree of digitalization is not an important factor for Chinese companies to consider when investing in BRICS countries. In "tax haven", for the purpose of tax avoidance, companies often choose to set up companies in "tax havens" by direct investment to achieve the purpose of tax avoidance, and at the same time, due to the development of digital tools, it is conducive to reduce the operating costs of enterprises with high staff training costs and improve profitability.

Based on the above researches, this paper has the following implications for the high-quality development of Chinese OFDI: First, some enterprises are having difficulties in digital transformation, the government can assign relevant experts to provide guidance and increase the investment in digital infrastructure, and enterprises, society and the government can combine together to build a digital industry, promote the digital transformation of enterprises, and improve The government can also help to narrow the digital divide and make digital tools more widely available. Secondly, many countries have signed the relevant agreements and "tax havens" are gradually disappearing, so companies can gradually ignore the impact of entering "tax havens" when making digital transformation. Thirdly, as the digital transformation of enterprises has deepened and digital tools are widely used to replace manual labor to a certain extent, some enterprises are laying off employees in order to cut labor costs, which will cause people with regular jobs to lose their jobs and cause social instability to a certain extent, and the government should also introduce relevant policies to relocate people who lose their jobs due to the digital transformation of enterprises.

This paper builds on the literature published by other experts and scholars to investigate the relationship between digital transformation and foreign investment strategies of companies, but there are still some areas that need further research and improvement. First of all, the sample selection in this paper has some limitations, because only listed companies in China have the obligation to disclose the relevant financial statements of enterprises, so the research objects selected in this paper are all listed companies in China. There is no lack of well-known large enterprises among the non-listed companies in China, but it is impossible to conduct a more in-depth study, and this paper uses the word frequency of blockchain technology in company reports as an indicator to measure the degree of digital transformation of enterprises, but there are many ways of digital transformation of enterprises, and the choice of this indicator is representative but also has certain defects. Whether the degree of digital transformation of firms has

other effects with changes in the way firms invest in OFDI will also require further research to confirm.

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