

The Coordination Effect of Two-Way Internationalization of Chinese Enterprises: A Dynamic Capabilities Perspective

Zhenhua Wang¹, Wenjuan Sun²

¹Business School, Yangzhou Polytechnic Institute, Yangzhou 225127, Jiangsu, China

²Research Institute of Low-altitude Economy Industry, Nanning Vocational and Technical University, Nanning 530000, Guangxi, China

Corresponding author: Wenjuan Sun (e-mail: 13448024483@163.com)

ABSTRACT China has entered a new phase of two-way internationalization, and examining the enabling effects and mechanisms of two-way internationalization coordination on enterprise performance is important for accelerating the construction of the dual-circulation development pattern. Based on dynamic capability theory and using textile enterprises as the research sample, this study investigates the micro-level effects of coordinated inward and outward internationalization. Empirical results show that two-way internationalization coordination provides enterprises with resource advantages in capital, technology, and information, thereby improving enterprise performance. At the same time, it strengthens dynamic capabilities, including sensing, integration, and reconfiguration capabilities. Dynamic capabilities serve as a key mechanism for improving enterprise performance and act as a mediating variable in the process through which two-way internationalization coordination affects business performance. The findings indicate that coordinated international resource acquisition and global market participation can enhance the adaptive capacity and performance of textile enterprises under complex external environments.

INDEX TERMS two-way internationalization, textile enterprises, dynamic capabilities, enterprise performance, resource integration

I. INTRODUCTION

INTERNATIONALIZATION is an inevitable choice for enterprises seeking to optimize, strengthen, and expand their operations. For the textile sector, in particular, this global reach is paramount, allowing firms to tap into diverse supply chains, access specialized foreign markets, and drive innovation in an increasingly competitive and sustainability-focused industry. Internationalization includes both inward and outward forms. Inward internationalization allows enterprises to introduce advanced resources such as knowledge, technology, and capital from developed countries [1]. Through collaboration with foreign enterprises, it helps improve management, innovation, and other operational capabilities. On the other hand, outward internationalization enables enterprises to participate more actively in global trade. Chinese enterprises, despite lacking certain advantages in Ownership, Location, and Internalization (OLI), have still actively entered developed country markets. They engage in R&D interactions, technological cooperation, and the transfer of results with enterprises from developed countries, which has significant reverse spillover effects on enterprise technological innovation capabilities and total

factor productivity [2]. However, some scholars point out that inward internationalization exacerbates domestic market competition. Strong foreign enterprises create a crowding-out effect on local companies in areas such as market presence, R&D, and innovation [3], thereby increasing the survival risks for domestic enterprises.

The dynamic capabilities theory provides a highly suitable theoretical perspective for analyzing the relationship between the coordinated development of two-way internationalization and enterprise performance. Dynamic capabilities refer to the ability of enterprises to integrate, build, and update existing resources in response to changes in the external environment, enabling them to adapt to market changes and seize market opportunities. This includes sensing capability, integrating capability, and reconfiguring capability [4]. The theory provides a theoretical foundation for achieving dynamic alignment between an enterprise's capabilities and environmental resources, helping enterprises gain sustainable competitive advantages. Enterprises engaged in two-way internationalization must face challenges and opportunities in both domestic and international markets, with the dynamic nature and complexity of the operating environment

significantly increasing. Internationalization enables enterprises to continuously shape their ability to utilize, integrate, and innovate resources in a dynamic environment, thereby enhancing their dynamic capabilities and promoting enterprise performance. Therefore, dynamic capabilities may play an intermediary role in the impact of coordinated two-way internationalization on enterprise performance. This is especially pertinent in the textile industry, where the firm's ability to swiftly sense market shifts (like sustainability demands or changes in global sourcing) and reconfigure its resources (such as supply chain and technological processes) acts as the crucial mechanism for translating international expansion into superior enterprise results.

II. THEORETICAL FOUNDATION AND RESEARCH HYPOTHESES

Two-way international coordination achieves a deep integration of “bringing in” and “going out”, organically combining global high-end factors with the potential of the domestic market. This injects high-quality resources and innovation momentum into the domestic economic cycle. Simultaneously, by driving Chinese enterprises to optimize their industrial chain layouts globally, it effectively enhances international competitiveness, serving as a pivotal hub connecting the domestic and international dual cycles and fostering their positive interaction. Currently, research on the concept of coordinated two-way internationalization by scholars primarily includes two aspects: First, the coordination under the interactive effects of two-way internationalization [5]. Inward and outward internationalization exhibit a distinct interactive relationship. Inward internationalization provides enterprises with resource support in management, innovation, technology, and other areas, thereby facilitating outward internationalization. Conversely, outward internationalization enhances enterprise influence, which in turn elevates the level of inward internationalization. These two processes reinforce each other rather than existing independently. The stronger the interactive relationship between inward and outward internationalization, the better the coordination of two-way internationalization. Second, the coordination under the dynamic balance of the scale of two-way internationalization [6]. Quantitative coordination can provide financial support for enterprise production, improve resource reorganization capabilities, and transfer domestically disadvantaged industries. Additionally, it can generate economies of scale, further boosting enterprise competitiveness. Cao *et al.* proposed that coordination between exploratory and exploitative innovation is crucial for enterprise development, and suggested measuring it through the construction of absolute differences [7]. Similarly, He and Wong used absolute differences to measure the coordination between exploratory and exploitative innovation, verifying their positive impact on enterprise sales performance through their interaction [8]. Yang *et al.* examined the impact of domestic and global innovation networks on enterprise innovation capabilities, with particular attention

paid to the coordination between the two. They measured this coordination by constructing absolute differences [9]. Drawing on the ideas of the above scholars, this study will examine the coordination relationship between two-way internationalization and its enabling effects on enterprise performance.

A. THE IMPACT OF TWO-WAY INTERNATIONALIZATION COORDINATION ON ENTERPRISE PERFORMANCE

China's internationalization process began with inward internationalization. The reform and opening-up policy marked China's breakthrough in integrating into the global economy and participating extensively in global trade, leading to significant expansion in the scale and methods of inward internationalization. As the primary approach through which Chinese enterprises initially engaged in global trade on a large scale, inward internationalization has had the most lasting and profound impact on enterprise development. On one hand, home-country enterprises achieve collaborative development with foreign enterprises through foreign investment. Foreign enterprises capable of making outward investments generally have significant advantages in areas such as innovation, management, and capital. Therefore, the introduction of foreign investment brings with it high-quality resources [10]. By cooperating with foreign enterprises, home-country enterprises can directly and efficiently utilize these advantageous resources, thereby improving their operational capabilities. On the other hand, home-country enterprises engage in international operations through imports, which not only allows them to quickly acquire the key resources needed for development but also reduces the investment of capital and time [11]. However, while inward internationalization introduces advantageous resources, it also inevitably brings strong competitors into the market. Foreign enterprises create a crowding-out effect on local enterprises in terms of market share, R&D, and innovation [12]. This increases the sense of crisis for home-country enterprises, motivating them to proactively develop. Therefore, inward internationalization can promote enterprise development through collaboration, resource integration, and crowding-out effects.

Inward and outward internationalization each have their own advantages and complement each other. Through their interaction and coordinated development, two-way internationalization empowers enterprise operations. First, two-way internationalization provides enterprises with multiple paths to acquire high-quality resources. Inward internationalization serves as the starting point for outward internationalization and determines and influences the success of outward internationalization [13]. Inward internationalization accelerates the accumulation of high-quality international resources, such as knowledge, management, innovation, and technology, within the domestic market. These resources are exactly what Chinese enterprises often lack for outward internationalization. Therefore, inward internationalization can cultivate the capabilities necessary for enterprises to

engage in outward internationalization and improve their development levels. On the other hand, by engaging in outward internationalization, enterprises can enhance their global influence and have the opportunity to secure better resources for cooperation in the domestic market. Second, the coordination of two-way internationalization can form a greater community of shared interests with foreign capital, providing a safer external environment for enterprise development. In an environment of increasing external uncertainties, enterprises face more diverse challenges. Two-way internationalization can help enterprises better understand the relevant regulations, rules, and legal frameworks of host countries, thus improving the legitimacy of their operations [14].

The absence of either inward or outward internationalization will significantly impact an enterprise's production and operations. If an enterprise focuses solely on inward internationalization and neglects outward internationalization, it may lead to excessive dependence on foreign enterprises, resulting in a passive mindset that places the home-country enterprise at the low end of the value chain. Over time, this increases the risk of being acquired or crowded out of the market [15]. On the other hand, if an enterprise excessively focuses on outward internationalization while neglecting inward internationalization, it may make the enterprise's overseas assets overly dependent on the regulatory controls of host-country governments, exacerbating the operational risks of these assets abroad. Additionally, excessive outward internationalization may lead to the transfer of domestic industrial structures [16]. For example, Japan's excessive overseas investment has caused an imbalance in two-way internationalization, resulting in domestic industrial imbalance and hollowing out. This not only affects the development of enterprises but can also have negative impacts on the overall economy and industrial development of the home country. In contrast, two-way internationalization coordination has a positive effect on the rationalization and upgrading of industrial structures [17]. At the same time, as China accelerates the construction of the "dual circulation" new development pattern, the potential of the domestic market is further expanding. If enterprises only focus on outward internationalization, they are bound to miss the opportunities for development in the domestic market.

In summary, two-way internationalization coordination not only allows enterprises to acquire more high-quality resources and markets, gaining a competitive advantage, but also promotes the construction of a community of shared interests between home-country and host-country enterprises, thereby reducing the risks associated with overseas operations. Therefore, this study proposes the following hypotheses:

H1: The higher the level of two-way internationalization coordination, the more significant the positive impact on enterprise performance.

B. ANALYSIS OF THE MECHANISM OF THE IMPACT OF TWO-WAY INTERNATIONALIZATION COORDINATION ON ENTERPRISE PERFORMANCE: THE MEDIATING ROLE OF DYNAMIC CAPABILITIES

Dynamic capabilities reflect an enterprise's ability to sense changes in the external environment and integrate and reconfigure resources. Inward internationalization has a significant impact on an enterprise's dynamic capabilities. First, due to factors such as institutional environments, innovation resources, and development time, Chinese enterprises face a substantial gap in innovation capabilities and innovation performance compared to enterprises in developed countries. Therefore, domestic enterprises, by attracting foreign investment and collaborating with enterprises in developed countries, can leverage advanced knowledge, technology, and other innovation resources. This not only helps share innovation risks but also improves their own innovation performance, enhancing their ability to integrate and reconfigure resources. Moreover, inward internationalization through foreign equity holdings allows enterprises to access the global information networks of foreign investors, improving the efficiency of information acquisition and alleviating the effects of information asymmetry [18]. This, in turn, enhances the sensing capabilities of the home-country enterprises. As a result, home-country enterprises can enhance their dynamic capabilities in areas such as market and resource perception, integration, and reconfiguration through inward internationalization.

For Chinese enterprises, engaging in outward internationalization involves navigating two types of host-country environments. On one hand, in countries and regions with lower development levels than China, Chinese enterprises rely on their own comparative advantages in areas such as technology and management to gain a proactive position in the host country, winning market and resource support. On the other hand, Chinese enterprises also actively seek cooperation with developed countries. Through outward internationalization, they engage in R&D interactions, technological cooperation, and the transfer of results with enterprises in developed countries. This leads to significant reverse spillover effects on their technological innovation capabilities and total factor productivity, contributing to the improvement of their integration and reconfiguration abilities. By engaging in outward internationalization, enterprises proactively immerse themselves in the global environment, which enables them to more promptly detect market changes, understand and learn cutting-edge knowledge, and swiftly update their products. This is crucial for enhancing the enterprises' sensing capabilities.

Compared to unidirectional internationalization, two-way internationalization further expands the breadth and depth of an enterprise's participation in global trade. First, enterprises engaged in two-way internationalization can simultaneously have direct channels for capturing changes in the external environment both domestically and internationally, improving the timeliness and accuracy of information acquisition.

Second, existing research has demonstrated that outward internationalization can enhance an enterprise's technological catch-up performance, and inward internationalization plays a positive role in this process. Wei et al. have shown that two-way internationalization can exert a coordinated effect through the cultivation of technological advantages and industrial transformation optimization, significantly boosting enterprise competitiveness [19]. Furthermore, the coordinated development of two-way internationalization also positively promotes economic growth [20], creating a favorable external environment for enterprises to enhance their dynamic capabilities. Based on the above, this study proposes the following hypotheses:

H2: The higher the level of two-way internationalization coordination, the more pronounced the positive impact on enterprise dynamic capabilities.

Dynamic capabilities are the source of an enterprise's ability to continuously create and maintain a competitive advantage. On one hand, dynamic capabilities promote the enhancement of an enterprise's sensing capabilities through specific processes, structures, and rules. The key to long-term development lies in an enterprise's ability to continuously provide services required by the market. Enterprises with strong sensing capabilities can quickly detect changes in market demand, whether in terms of risks or opportunities, which helps them make strategic arrangements in advance. On the other hand, dynamic capabilities emphasize an enterprise's ability to integrate internal and external resources. In the case of unexpected events, enterprises with strong dynamic capabilities are more likely to mobilize strategic improvisation, enabling them to spontaneously utilize existing resources to respond strategically to unforeseen situations triggered by environmental changes [21]. Dynamic capabilities also highlight the enterprise's ability to reconfigure resources. Reconfiguration implies innovation, where enterprises provide direction for resource reconfiguration through sensing market demand changes and provide the material basis for reconfiguration through the integration of existing resources. Based on this, enterprises can leverage reconfiguration capabilities to carry out efficient innovation activities, leading to higher open innovation performance. In conclusion, dynamic capabilities are essential for the long-term development of enterprises, and enterprises with strong dynamic capabilities are more likely to achieve better development prospects. Therefore, this study proposes the following hypothesis:

H3: Dynamic capabilities have a positive impact on enterprise performance.

As mentioned above, two-way internationalization coordination expands the resources and markets required for enterprise development, providing opportunities for enterprises to enhance their ability to sense changes in the external environment and integrate and reconfigure both internal and external resources. In other words, two-way internationalization coordination can improve enterprise dynamic capabilities. When facing increasingly complex and sudden changes

in the internal and external environments, enterprises with higher dynamic capabilities can not only promptly identify market opportunities but also effectively capture market risks. This helps enterprises quickly achieve the optimal alignment between their capabilities and the market environment by integrating and reshaping both internal and external resources and structures, thereby enabling steady development. Therefore, internationalization, by shaping an enterprise's dynamic capabilities, impacts enterprise performance, meaning dynamic capabilities play a mediating role in the influence of two-way internationalization coordination on enterprise operations. Based on the above analysis, this study proposes the following hypothesis:

H4: Two-way internationalization coordination influences enterprise performance by affecting dynamic capabilities.

III. RESEARCH DESIGN

A. DATA SOURCES

The purpose of this study is to explore the impact of two-way internationalization coordination on enterprise performance and its underlying mechanisms, using enterprises engaged in two-way internationalization as the research object. The data are sourced from the China Industrial Database and the China Customs Database. The China Industrial Database provides operational data of enterprises, including main enterprise income, operating profits, and more. The China Customs Database offers detailed import and export data, including import/export volumes, destinations, and product types. Although the China Industrial Database and the China Customs Database contain rich enterprise data, they use completely different coding systems. Therefore, these two databases need to be matched. Following the approach used by Lin et al. [22], this study matches the two databases based on the enterprise name, year, postal code of the location, and the last seven digits of the enterprise's phone number. The final matching rate between the two databases was approximately 28%. To ensure the robustness of the results, this study strengthened the verification of enterprise information to guarantee data accuracy. This study excluded samples with significant data missingness and outliers. After data screening, a panel dataset spanning 13 years from 338 textile enterprises was selected, comprising a total of 4,056 observations.

B. VARIABLE MEASUREMENT

(1) Dependent Variable: Performance of Enterprise (PE) Enterprise performance refers to the benefits an enterprise achieves over a specific operating period and is a core indicator of enterprise development. In this study, enterprise performance is measured by the total profit. We apply a logarithmic transformation to enterprise profits. To avoid undefined logarithms caused by zero or negative profits, we use $\ln(1+\text{total profit})$ to measure enterprise performance while excluding loss-making enterprises.

(2) Independent Variable: Two-way Internationalization Coordination (TWI-C). Scholars researching two-way in-

ternationalization at the macro level often use inward foreign direct investment (IFDI) and outward foreign direct investment (OFDI) at the national or provincial level to measure two-way internationalization. However, relevant Chinese databases do not provide enterprise-level FDI data. Currently, three main methods are used to quantify an enterprise's two-way internationalization operations: first, by using a binary method (0,1 assignment) to distinguish whether an enterprise engages in two-way internationalization, as used by Chen and Zeng [23]; second, by using survey methods to obtain the level of two-way internationalization, as used by Mb et al.; however, both of these methods do not directly reflect the level of two-way internationalization coordination. This study adopts the methodology proposed by Har et al. [24], using the absolute difference in import and export values to measure the level of two-way internationalization coordination. The smaller the absolute difference between import and export volumes, the higher the level of coordination in bilateral internationalization.

(3) Mediating Variable: Dynamic Capabilities (DC). Drawing on the measurement methods of Zheng et al. and other scholars, and considering the types of data collected, this study selects three dimensions to measure the sensing, integration, and reconfiguration capabilities of the sample enterprises: the ratio of current assets, total asset turnover, and the proportion of new product output [25]. A higher asset current ratio provides enterprises with the resource security to respond to sudden changes and seize new opportunities, enabling them to perceive emerging market threats or opportunities [26]. Total asset turnover reflects the efficiency with which an enterprise manages and utilizes existing resources to generate revenue [27]. Efficient asset turnover demonstrates an enterprise's ability to integrate internal and external resources into existing operational processes and coordinate them for high-efficiency operation. The proportion of output from new products measures a company's innovation level. A higher proportion indicates the company's proficiency in restructuring knowledge, technology, and processes [28]. The dynamic capabilities of the enterprises are then calculated by taking the average of these three dimensions. Prior to regression analysis, we applied twotailed winsorization at the 1% level to the variable DC to control for the influence of extreme values.

(4) Control Variables: Drawing on the research of Huang et al. [29], this study selects enterprise age, enterprise size, province, and ownership type as control variables. Enterprise age is calculated by subtracting the year of establishment from the year of the data. Enterprise size is measured by the number of employees and is represented by the logarithm of the number of employees. The province is determined based on the enterprise's registered location. We controlled for province-level fixed effects. Ownership type is categorized into five types based on the enterprise's registration type: state-owned enterprises, collective enterprises, private enterprises, Sino-foreign joint ventures (including Hong Kong, Macau, and Taiwan capital), and

wholly foreign-owned enterprises (including Hong Kong, Macau, and Taiwan capital), with values assigned from 1 to

5. We set ownership as a category dummy variable. The main variable descriptions are shown in Table 1.

TABLE 1. Description of Key Variables

Variable Type	Variable Name	Variable Symbol	Variable Measurement
Dependent Variable	Performance of the Enterprise	PE	$\ln(1 + \text{profit})$
Independent Variable	Two-way Internationalization Coordination	TWI-C	$1/[1 + \ln(1 + \text{Import} - \text{Export})]$
Mediating Variable	Dynamic Capabilities	DC	Average of the ratio of current assets, total asset turnover, and new product output ratio
Control Variables	Enterprise Age	Age	Year of analysis - Year of establishment
	Enterprise Size	Size	Number of employees, measured as the natural logarithm
	Province	Province	Registered location of the enterprise
	Ownership Type	Ownership	Enterprise registration type

Note: Import value, export value, and total profit have all been converted to units of ten thousand CNY.

C. BUILDING THE MODELS

The regression model in the current study is specified as follows:

$$PE = \beta_1 \text{TWI-C}_{i,t} + \sum \beta_n C_{i,t} + \beta_0 + \varepsilon_{i,t} \quad (1)$$

$$DC = \beta_2 \text{TWI-C}_{i,t} + \sum \beta_n C_{i,t} + \beta_0 + \varepsilon_{i,t} \quad (2)$$

$$PE = \beta_3 DC_{i,t} + \sum \beta_n C_{i,t} + \beta_0 + \varepsilon_{i,t} \quad (3)$$

$$PE = \beta_4 \text{TWI-C}_{i,t} + \beta_5 DC_{i,t} + \sum \beta_n C_{i,t} + \beta_0 + \varepsilon_{i,t} \quad (4)$$

Where β_n represents the regression coefficients of the variables, β_0 is the intercept of the regression model, $C_{i,t}$ refers to the control variables, $\varepsilon_{i,t}$ is the random disturbance term, i denotes the enterprise sample, and t represents the year. Formula (1) tests the impact of two-way internationalization coordination on enterprise performance, Formula (2) tests the impact of two-way internationalization coordination on dynamic capabilities, Formula (3) tests the impact of dynamic capabilities on enterprise performance, and Formula (4) tests whether dynamic capabilities mediate the effect of two-way internationalization coordination on enterprise performance.

IV. EMPIRICAL RESULTS AND ANALYSIS

A. DESCRIPTIVE STATISTICS AND CORRELATION ANALYSIS

The panel data used in this study passed the LLC, IPS, and Fisher unit root tests, indicating that the data is stationary. The descriptive statistics for each variable are shown in Table 2. To preliminarily examine the associations among the continuous variables, we conducted Pearson correlation

analyses. The results of the correlation analysis are presented in Table 3. As shown in Table 3, the correlation coefficient between two-way internationalization coordination and enterprise performance is 0.013, while that with dynamic capabilities is 0.035. Both correlations are statistically significant at the 10% and 5% levels. This indicates that two-way internationalization coordination exhibits significant correlations with both enterprise performance and dynamic capabilities.

TABLE 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
PE	4056	8.023	2.307	0	15.85
TWI-C	4056	.09	.017	.055	.27
DC	4056	.899	.757	.08	4.31
Size	4056	6.022	1.128	1.79	9.89
Age	4056	15.68	7.075	2	78

TABLE 3. Correlation Test

Variable	PE	TWI-C	DC	Size	Age
PE	1				
TWI-C	0.013*	1			
DC	0.035**	0.011*	1		
Size	-0.014	0.626***	0.039**	1	
Age	0.157***	0.068***	0.025	0.044***	1

Note: The numbers in parentheses are standard errors, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

B. MULTICOLLINEARITY TEST

As shown in Table 3, the correlation coefficients between most variables are below 0.5, indicating that there is no obvious multicollinearity among the selected variables. To further verify the absence of multicollinearity, the Variance Inflation Factor (VIF) values were calculated, and the results are presented in Table 4. The VIF values for all variables are below 10, with an average value of 1.655, suggesting that there is no serious multicollinearity between the variables.

TABLE 4. Multicollinearity Test

Variable	VIF	1/VIF
TWI-C	2.410	0.415
Size	1.900	0.526
Province	1.870	0.535
Age	1.350	0.741
DC	1.260	0.794
Ownership	1.140	0.877
Mean VIF	1.655	

C. REGRESSION ANALYSIS

1. Model Selection Test

This study uses panel data. To determine the appropriate estimation method, a Hausman test was conducted to compare the mixed OLS model, fixed effects model, and random effects model. According to the results shown in Table 5, the fixed effects model was selected for this study.

TABLE 5. Hausman Test

	p	Result
Hausman test	< 0.01	The fixed-effects model is superior

Note: $P < 0.01$, meaning the original hypothesis is rejected at the 1% level.

2. Main Effects and Mediating Effects Test

The results of the main effects and mediating effects tests are shown in Table 6. Column (0) presents the baseline regression, while column (1) tests the impact of two-way internationalization coordination on enterprise performance using Formula (1). As shown in Column (1) of Table 6, the regression coefficient for two-way internationalization coordination and enterprise performance is 0.134 ($p < 0.05$), indicating that two-way internationalization coordination significantly promotes the improvement of enterprise performance, supporting Hypothesis H1. This is because coordination of two-way internationalization allows enterprises to expand their pathways for acquiring scarce resources and sales space, thereby improving the quality of internationalization [30]. At the same time, two-way internationalization coordination not only enables enterprises to acquire high-quality resources from foreign enterprises but also enhances the enterprises' autonomy in enterprise operations. By building a community of shared interests with foreign enterprises, it further promotes deeper cooperation.

Column (2) of Table 6 uses Equation (2) to examine the impact of two-way internationalization coordination on enterprise dynamic capabilities. As shown in Column (2) of Table 6, the regression coefficient for two-way internationalization coordination and enterprise dynamic capabilities is 0.107 ($p < 0.1$), indicating that two-way internationalization coordination positively promotes enterprise dynamic capabilities, supporting Hypothesis H2. This is because two-way internationalization makes the external environment, competition, opportunities, and resources faced by enterprises more complex and diverse, which helps cultivate enterprises' abilities to sense, integrate, and reconfigure market and resource factors [31].

Column (3) of Table 6, using Formula (3), tests the impact of dynamic capabilities on enterprise performance. The regression coefficient is 0.743 ($p < 0.05$), indicating that dynamic capabilities significantly promote enterprise performance, which supports hypothesis H3. This suggests that the sensing, integration, and reconfiguration capabilities included in dynamic capabilities are core competencies that enterprises rely on for enterprise development and are an important manifestation of their competitive advantage. Column (4) of Table 6 further examines the mediating role of dynamic capabilities between two-way internationalization coordination and enterprise performance using Equation (4). By introducing the dynamic capability variable, the regression coefficient for two-way internationalization coordination and enterprise performance decreased from 0.134 to 0.126 ($p < 0.05$), while the coefficient for dynamic

capability and enterprise performance also dropped from 0.743 to 0.471 ($p < 0.05$). This indicates that incorporating dynamic capability weakened the direct impact of two-way internationalization coordination on enterprise performance, confirming the mediating role of dynamic capability. Therefore, hypothesis H4 is supported.

TABLE 6. Main Effects and Mediating Effects Test Results

Variable	(0) PE	(1) PE	(2) DC	(3) PE	(4) PE
TWI-C		0.134** (0.064)	0.107* (0.057)		0.126** (0.064)
Size	-0.106 (0.127)	-0.095 (0.127)	-0.026* (0.015)	-0.093*** (0.127)	-0.087 (0.127)
Age	-0.093*** (0.031)	-0.428*** (0.030)	0.052* (0.082)	-0.056** (0.031)	-0.093*** (0.031)
Province	Yes	Yes	Yes	Yes	Yes
Ownership	Yes	Yes	Yes	Yes	Yes
DC				0.743** (0.377)	0.471** (0.377)
_cons	0.380*** (0.131)	0.419* (0.131)	0.372*** (0.216)	0.372*** (0.131)	4.775*** (0.132)
N	4056	4056	4056	4056	4056

Note: The numbers in parentheses are standard errors, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

To further validate the effectiveness of the mediating effect, this study uses the Bootstrap method to test the sample data, setting the number of resamples to 1000. The results are shown in Table 7. As can be seen from the results in Table 7, whether for the direct effect or the indirect effect of two-way internationalization coordination, the 95% confidence intervals do not contain 0, confirming the significance of the mediating effect found in Table 6.

TABLE 7. Mediating Effects Test Results

Variable	Effect	Coef.	S.E.	Z	P	95% Confidence Interval
TWI-C	Indirect	0.031	0.005	6.77	< 0.001	[0.022,0.040]
TWI-C	Direct	0.068	0.008	8.65	< 0.001	[0.053,0.084]

Note: $P < 0.001$ indicates rejection of the null hypothesis.

D. ROBUSTNESS TEST

To further validate the effectiveness of the empirical results, two methods are used to conduct robustness tests.

1. Replacing Variables

In the preceding discussion, we employed the absolute difference between import and export volumes to measure an enterprise's level of two-way internationalization coordination. However, this indicator captures only the relative balance between the two flows but fails to account for their absolute scales. For instance, an enterprise with minimal import and export activities could exhibit a small absolute difference, misleadingly indicating a high level of coordination, which does not align with the actual scale of its international operations or their potential impact. This measurement error may bias the empirical results. To overcome this limitation, this study draws on the methods of Cao *et al.* [7] and Yang *et al.* [9] by constructing a multiplication term to measure coordination levels: Coordination = $1 / [1$

+ $\ln(1 + \text{imports} \times \text{exports})]$. The results of the regression analysis using the new variables are shown in columns (1) to (4) of Table 8. Two-way internationalization coordination remains positively correlated with enterprise performance, and the mediating effect of dynamic capabilities remains significant. These results indicate that the empirical findings are robust to alternative measurements of coordination, suggesting that the observed relationships are not driven by a specific variable construction. However, as with most firm-level panel studies, the results should be interpreted as associative rather than strictly causal.

2. Changing the Sample Size

The global financial crisis triggered by Europe and the United States in 2008 had a significant impact on global multinational trade. Europe and the U.S. are major import and export markets for China. For example, due to the financial crisis, China's exports to Europe in 2009 decreased by 22.9% year-on-year. This had a major impact on the coordination of two-way internationalization for enterprises. The period from 2008 to 2013 is considered the time frame most affected by the financial crisis. Given that the external environment and its effects on enterprise operations may vary across different phases, this study reanalyzes the data from 2008- 2013 to further verify the robustness of the conclusions. As shown in columns (5) to (8) of Table 8, the results of the correlation tests for each variable remain consistent with those in Table 6, indicating that the research conclusions hold robustly across different sample periods.

TABLE 8. Robustness Test

	(1) PE	(2) DC	(3) PE	(4) PE	(5) PE	(6) DC	(7) PE	(8) PE
TWI-C	0.083* (0.043)	0.073* (0.038)		0.078* (0.043)	0.359** (0.177)	0.165* (0.094)		0.306** (0.177)
Size	-0.015 (0.127)	-0.026* (0.015)	-0.060 (0.127)	-0.087 (0.127)	-0.078 (0.235)	0.221* (0.120)	-0.030* (0.235)	-0.102* (0.235)
Age	-0.092*** (0.031)	0.428*** (0.082)	-0.024 (0.031)	-0.148 (0.031)	-0.589*** (0.184)	0.167*** (0.079)	-0.309* (0.184)	-0.335* (0.184)
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ownership	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DC			1.540* (0.928)	1.026* (0.622)			0.825** (0.388)	0.764** (0.388)
_cons	-3.232* (0.131)	0.372*** (0.216)	-2.197 (0.132)	-3.250* (0.131)	-5.797* (3.242)	-1.298 (2.820)	-5.926* (3.242)	-5.508* (3.242)
N	4046	4056	4056	4056	2028	2028	2028	2028

Note: The numbers in parentheses are standard errors, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

V. CONCLUSION AND DISCUSSION

A. RESEARCH CONCLUSION AND CONTRIBUTIONS

This study uses data from the China Industrial Database and the China Customs Database after matching, based on dynamic capabilities theory, to analyze the enabling effect of two-way internationalization coordination on enterprise performance and explore the mediating role of dynamic capabilities. Through theoretical analysis and empirical testing, the following conclusions were drawn: First, internationalization provides a pathway for enterprises to acquire global high-quality resources, thus broadening their development opportunities. Coordination of two-way internationalization helps establish a community of shared interests between enterprises in both countries, promoting deeper integration and enhancing enterprise performance. Second, two-way internationalization increases the dynamism and complexity of the enterprise's operating environment, which cultivates its sensing capabilities for risk prediction and opportunity identification. Additionally, the richness and diversity of international resources also shape the enterprise's integration and reconfiguration capabilities. Third, two-way internationalization coordination influences enterprise performance by fostering dynamic capabilities, with dynamic capabilities mediating the relationship between two-way internationalization coordination and enterprise performance. These findings contribute to the understanding of how two-way internationalization coordination enhances enterprise performance through dynamic capabilities, providing valuable insights for both policymakers and enterprise leaders in China and beyond.

The contributions of this study are mainly as follows: First, this study focuses on the unique perspective of two-way internationalization coordination. By using textile enterprises engaged in two-way internationalization as the research sample, it explores the impact of two-way internationalization coordination on enterprise development at the micro level, broadening the theoretical perspective of

internationalization research and enriching the content of micro-level studies on international enterprise operations. Second, this study applies dynamic capabilities theory and verifies the mediating role of dynamic capabilities in the relationship between two-way internationalization coordination and enterprise performance, thereby opening the black box of the relationship between two-way internationalization coordination and enterprise operations. Third, the research findings are closely related to practical enterprise operations, offering valuable insights for governments and enterprises in formulating multinational enterprise strategies.

B. RESEARCH IMPLICATIONS AND LIMITATIONS

Amid the growing global uncertainty, China's two-way internationalization development has demonstrated strong resilience. For the government, in order to achieve the new development pattern of mutual promotion between domestic and international circulations, it is essential to further optimize the foreign investment service system. This can be achieved by continually innovating in areas such as tariff systems, approval systems, and regulatory frameworks, reducing trade barriers, and creating a secure, win-win investment environment. It is crucial to leverage China's advantages, including its large market size, strong manufacturing capacity, and well-developed infrastructure, to enhance the attractiveness of high-quality foreign investment. On the other hand, in encouraging Chinese enterprises to "go global" through various means, the government must continually improve protective measures and provide support in terms of policies, funding, and technology. Additionally, at the governmental level, it is important to strengthen political and economic cooperation with host countries to provide timely risk warnings and security guarantees for overseas enterprises, thereby reducing the risks associated with overseas investment. Enterprise development is highly dependent on national strategic planning. As China continues to open up and deepen its level of foreign engagement,

an increasing number of enterprises will adopt an enterprise model that emphasizes both inward and outward internationalization. For enterprises, on one hand, they must seize the significant opportunities presented by the “dual circulation” development pattern and achieve coordinated development in two-way internationalization. While deepening cooperation with foreign enterprises, two-way internationalization also allows enterprises to cultivate their own capabilities and enhance their autonomy in cooperation. However, two-way internationalization coordination is a dynamic process, not a static one. Enterprises should formulate development strategies based on their own characteristics and stages of development, progressing step by step. There is no need to pursue absolute coordination at all costs, forcing a change in the development path. On the other hand, enterprises must continuously improve their learning capabilities. Two-way internationalization provides enterprises with the opportunity to access high-end technologies, management experiences, and advanced knowledge from global high-quality resources. However, only enterprises with strong learning capabilities can fully utilize these valuable resources and integrate and innovate them based on their specific needs, ultimately creating a competitive advantage. Therefore, while striving to improve enterprise performance, enterprises must also focus on building a strong talent pipeline and enhancing their learning capabilities.

This study also has the following limitations: On the one hand, this study primarily focused on the mediating role of dynamic capabilities in the relationship between two-way internationalization coordination and enterprise performance. Future studies could explore the influence of institutional, economic, geographic, and cultural distances on the relationship between two-way internationalization coordination and enterprise performance. On the other hand, the impact of two-way internationalization coordination is broad. Future research could further explore the influence of two-way internationalization coordination on aspects such as location selection and enterprise governance, thereby enriching research on internationalization.

VI. CONCLUSION

This paper investigates the empowering effect and underlying mechanism of two-way internationalization coordination (“dual circulation” pattern) on the enterprise performance of Chinese enterprises, with particular relevance for established sectors such as the textile industry seeking high-quality development. Utilizing the dynamic capabilities theory, the study finds that coordination of two-way internationalization positively impacts enterprise performance by promoting a community of shared interests, deepening cooperation, and significantly enhancing the firm’s dynamic capabilities (i.e., its ability to perceive market opportunities/risks and to integrate/reconfigure internal and external resources). Overall, the findings confirm that dynamic capabilities serve as the crucial intermediary mechanism through which the strategic coordination of international activities translates

into superior and sustainable organizational performance. Specifically, within the textile industry, this translates to the essential need for firms to develop sensing capabilities to rapidly detect shifts in global sourcing and consumer demands for sustainability, and reconfiguring capabilities to swiftly adapt their supply chains and production processes, thereby turning twoway international engagement into sustained competitive advantage and growth.

AUTHOR CONTRIBUTIONS

Conceptualization – Zhenhua Wang and Wenjuan Sun; methodology – Zhenhua Wang and Wenjuan Sun; investigation – Zhenhua Wang and Wenjuan Sun; writing-original draft preparation – Zhenhua Wang and Wenjuan Sun. All authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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REFERENCES

- [1] S. Cen, L. Li, and W. Cui, “How does foreign equity right impact manufacturing enterprise innovation behaviors? Mediation test based on technology introduction,” *Discrete Dynamics in Nature and Society*, vol. 2020, no. 1, Art. no. 8921083, 2020, doi: 10.1155/2020/8921083.
- [2] D. Peng, Y. Ji, and Q. Kong, “OFDI and firms’ sustainable productive capacity: evidence from Chinese industrial firms,” *International Review of Economics & Finance*, vol. 83, pp. 641-652, 2023, doi: 10.1016/j.iref.2022.10.010.
- [3] Y. Yao and R. Salim, “Crowds in or crowds out? The effect of foreign direct investment on domestic investment in Chinese cities,” *Empirical Economics*, vol. 58, pp. 2129-2154, 2020, doi: 10.1007/s00181-018-1611-8.
- [4] D. J. Teece, “Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance,” *Strategic Management Journal*, vol. 28, no. 13, pp. 1319-1350, 2007.
- [5] S. Luo, Y. Shi, Y. Sun, Z. Zhao, and G. Zhou, “Can FDI and ODI two-way flows improve the quality of economic growth? Empirical evidence from China,” *Applied Economics*, vol. 53, no. 44, pp. 5028-5050, 2021, doi: 10.1080/00036846.2021.1914318.

- [6] S. Yi, "Research on promoting effect of coordinated development of two-way FDI on integration of two industries," *Frontiers in Business, Economics and Management*, vol. 7, no. 3, pp. 110-118, 2023, doi: 10.54097/fbem.v7i3.5402.
- [7] Q. Cao, E. Gedajlovic, and H. Zhang, "Unpacking organizational ambidexterity: dimensions, contingencies, and synergistic effects," *Organization Science*, vol. 20, no. 4, pp. 781-796, 2009, doi: 10.1287/orsc.1090.0426.
- [8] Z. L. He and P. K. Wong, "Exploration vs. exploitation: an empirical test of the ambidexterity hypothesis," *Organization Science*, vol. 15, no. 4, pp. 481-494, 2004, doi: 10.1287/orsc.1040.0078.
- [9] Z. N. Yang, Y. F. Hou, D. H. Li, and W. C. Zhou, "Equilibrium effects of open innovation networks in Chinese firms' "double cycle": an examination based on digital empowerment and organizational flexibility," *Management World*, vol. 37, no. 11, pp. 184-205, 2021, doi: 10.19744/j.cnki.11-1235/f.2021.0178.
- [10] L. Fu and W. Liang, "How improving the quality of foreign direct investment can promote sustainable development: Evidence from China," *Sustainability*, vol. 17, no. 9, pp. 3824, 2025, doi: 10.3390/su17093824.
- [11] X. Li, Y. Lu, and R. Huang, "Whether foreign direct investment can promote high-quality economic development under environmental regulation: evidence from the Yangtze River Economic Belt, China," *Environmental Science and Pollution Research*, vol. 28, pp. 21674-21683, 2021, doi: 10.1007/s11356-020-12032-z.
- [12] S. Zhao, "The impact of foreign direct investment on local entrepreneurship: blessing or curse? Asia-Pacific Journal of Accounting & Economics," 2023; 30(5):1137-1149, doi: 10.1080/16081625.2022.2092158.
- [13] L. S. Welch and R. K. Luostarinen, "Inward-outward connections in internationalization," *Journal of International Marketing*, vol. 1, no. 1, pp. 44-56, 1993, doi: 10.1177/1069031x9300100104.
- [14] E. Amer, "Internationalization, institutional pressures in foreign markets, and environmental sustainability," *Journal of International Management*, vol. 29, no. 1, Art. no. 100974, 2023, doi: 10.1016/j.intman.2022.100974.
- [15] P. J. Buckley, "Corporate reactions to the fracturing of the global economy," *International Business Review*, vol. 32, no. 6, Art. no. 102014, 2023, doi: 10.1016/j.ibusrev.2022.102014.
- [16] H. K. Kwon, "National economies in globalization," in *Openness and Coordination*. Singapore: Palgrave Macmillan, 2024, doi: 10.1007/978-981-97-3352-1_2.
- [17] S. Shin, "An empirical analysis on Japan's industrial hollowing out [dissertation]," Sejong: KDI School; 2022, [Online]. Available: <https://archives.kdischool.ac.kr/handle/11125/44735>.
- [18] C. Yi, Y. Zhan, J. Zhang, and X. Zhao, "Ownership structure and OFDI by EMNES: the moderating effects of international experience and migrant networks," *International Journal of Emerging Markets*, vol. 17, no. 10, pp. 2445-2467, 2022, doi: 10.1108/IJOEM-07-2020-0807.
- [19] Z. Wei, M. Li, Y. Li, and Y. You, "The impact of two-way FDI on the upgrading of China's industrial structure: based on the research in Chongqing," *Journal of Asian Business Strategy*, vol. 14, no. 1, pp. 111, 2024, doi: 10.55493/5006.v14i1.5137.
- [20] A. Jahanger, "Influence of FDI characteristics on high-quality development of China's economy," *Environmental Science and Pollution Research*, vol. 28, pp. 18977-18988, 2021, doi: 10.1007/s11356-020-09187-0.
- [21] S. Adomako, J. Amankwah-Amoah, F. Donbesuur, M. Ahsan, A. Danso, and M. Uddin, "Strategic agility of SMEs in emerging economies: antecedents, consequences and boundary conditions," *International Business Review*, vol. 31, no. 6, Art. no. 102032, 2022, doi: 10.1016/j.ibusrev.2022.102032.
- [22] C. Lin, S. Xiao, and Z. Yin, "How do industrial robots applications affect the quality upgrade of Chinese export trade? Telecommunications Policy," 2022; 46(10):102425, doi: 10.1016/j.telpol.2022.102425.
- [23] B. Chen and S. Zeng, "Two-way investment and corporate innovation: analysis of microdata based on listed companies in China," *Theory Monthly*, vol. 12, pp. 128-135, 2019, doi: 10.14180/j.cnki.1004-0544.2019.12.016.
- [24] V. T. Ha, M. J. Holmes, and T. M. Le, "Firms and export performance: does size matter? *Journal of Economic Studies*," 2020; 47(5):985-999, doi: 10.1108/JES-12-2018-0451.
- [25] X. Zheng, F. Wang, S. Liu, H. Wang, and D. Zhang, "Outward foreign direct investment, dynamic capabilities and radical innovation performance: empirical evidence from Chinese high-tech companies," *Chinese Management Studies*, vol. 18, no. 4, pp. 921-953, 2024, doi: 10.1108/CMS-12-2022-0477.
- [26] N. Iriani, A. Agustianti, R. Sucianti, A. Rahman, and W. Putera, "Understanding risk and uncertainty management: a qualitative inquiry into developing business strategies amidst global economic shifts, government policies, and market volatility," *Golden Ratio of Finance Management*, vol. 4, no. 2, pp. 62-77, 2024, doi: 10.52970/grfm.v4i2.444.
- [27] T. T. C. Nguyen, A. T. H. Le, and C. V. Nguyen, "Internal factors affecting the financial performance of an organisation's business processes," *Business Process Management Journal*, vol. 29, no. 5, pp. 1408-1435, 2023, doi: 10.1108/BPMJ-10-2022-0486.
- [28] F. Doni and M. Fiameni, "Can innovation affect the relationship between environmental, social, and governance issues and financial performance? Empirical evidence from the STOXX200 index," *Business Strategy and the Environment*, vol. 33, no. 2, pp. 546-574, 2024, doi: 10.1002/bse.3500.
- [29] Z. Huang, Y. Tao, X. Luo, Y. Ye, and T. Lei, "Regional digital finance and corporate investment efficiency in China," *Applied Economics*, vol. 55, no. 43, pp. 5115-5134, 2023, doi: 10.1080/00036846.2022.2136616.
- [30] W. Zhang, Y. Wang, and F. Fan, "How does coordinated development of two-way foreign direct investment affect natural resources utilization? Spatial analysis based on China's coal resource utilization efficiency," *Resources Policy*, vol. 85, Art. no. 104002, 2023, doi: 10.1016/j.resourpol.2023.104002.
- [31] M. Rahman, D. Hack-Polay, S. Shafique, and P. A. Igwe, "Dynamic capability of the firm: analysis of the impact of internationalisation on SME performance in an emerging economy," *International Journal of Emerging Markets*, vol. 18, no. 9, pp. 2383-2401, 2023, doi: 10.1108/IJOEM-02-2021-0236.