

Cross-Boundary Search and Trading Firm Growth: The Mediating Roles of Relational Capital and Cognitive Flexibility

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Abstract: *Cross-boundary search has attracted scholarly attention as a key driver of sustainable growth by enabling firms to overcome cognitive inertia. Drawing on resource dependence theory, this study constructs a theoretical framework and empirically tests it using survey data from trading enterprises. The results reveal that cross-boundary search significantly enhances firm growth, and this effect is mediated by relational capital and cognitive flexibility. Based on these findings, the paper offers practical recommendations for intensifying boundary-spanning activities, expanding external networks, and strengthening organizational cognitive adaptability to foster long-term development.*

Keywords: Cross-boundary search; Firm growth; Resource dependence theory; Relational capital; Cognitive flexibility; Mediating effect.

1. Introduction and Literature Review

Growth is an important indicator reflecting the current state of business operations and a key factor influencing future development potential and value creation capability. In June 2024, the General Office of the State Council issued the “Several Policy Measures to Promote High-Quality Development of Venture Investment,” emphasizing the implementation of a patent industrialization program to promote the growth of small and medium-sized enterprises, selecting a group of high-growth companies for enhanced standardized cultivation and post-investment management. Clearly, how to enhance corporate growth and build high-growth enterprises has become a focal topic. With the deepening of market-oriented reforms in recent years, China’s distribution industry players have gradually grown stronger, providing strong support for smoothing the national economic cycle and serving the construction of a new development pattern. The “Prosperous Consumer Market and Innovative Quality Improvement in Trade and Commerce – Report Five of the Series on Socioeconomic Development Achievements of New China’s 75 Years” released by the National Bureau of Statistics mentioned that by the end of 2023, there were over 10 million legal entities in the wholesale and retail sectors in China, approximately 77 times that of 1952. However, due to uncertainties in the external environment and the resulting persistent limitations in resource acquisition, many distribution enterprises face numerous bottlenecks during their development, such as capital shortages, outdated technology, talent scarcity, and single-channel reliance (Zhang Xiao and Wang Juanjuan, 2024), severely impacting the growth of distribution enterprises. Resource dependence theory suggests that enterprises need to continuously acquire external resources to compensate for internal deficiencies, and cross-boundary search provides a feasible path for distribution enterprises to obtain external resources, accumulate relational capital, increase financing opportunities, and achieve high growth (Rui Zhengyun and Luo Jinlian, 2018). Therefore, this article conducts theoretical and empirical research on the relationship between cross-boundary search and the growth of

distribution enterprises, which is of great significance for revealing the empowering role of cross-boundary search and enhancing the growth of distribution enterprises.

Enterprise growth refers to the characteristic of continuous expansion and improvement demonstrated by enterprises in terms of scale, efficiency, market influence, and other aspects, reflecting the current production and operation status as well as the future development potential of the enterprise. Enterprises with high growth are often pioneers of industry change and exhibit stronger adaptability when facing external risks such as market fluctuations and policy changes. The topic of enterprise growth has drawn attention from some scholars. First, some scholars focus on the driving factors of enterprise growth. Liu Ping and Wu Aokai (2022) proposed that the heterogeneity of enterprise executives’ educational background and functional background has a significant positive impact on enterprise growth; Shan Chunxia et al. (2021) suggested that government subsidies can effectively enhance enterprise growth, and specifically, government subsidies have a greater positive impact on the growth of manufacturing enterprises. Second, some scholars study the impact effects of enterprise growth. Du Yuan (2023) proposed that high-growth enterprises are more likely to choose a dual-class share structure. From the perspective of choice outcomes, the values of internal and external shareholders of dual-class companies are not consistent, and choosing a dual-class share structure is more conducive to improving enterprise performance for high-growth enterprises. Finally, a few scholars like Lu Fucui and Chen Hui (2023) focused on the transmission role of enterprise growth between variables, finding a positive correlation between industrial internet and enterprise growth, and that enterprise growth can effectively transmit the positive impact of industrial internet on enterprise value.

The concept of cross-boundary search originates from the theory of cross-boundary search, mainly focusing on how enterprises conduct external heterogeneous resource searches by crossing their own physical, technological, and cognitive boundaries to accelerate their innovation process and

knowledge accumulation. The positive role of cross-boundary search in promoting breakthrough innovation, establishing sustainable competitive advantages, and enhancing ambidextrous innovation capabilities of enterprises has gained widespread attention in academia. First, cross-boundary search presents an inverted U-shaped impact on breakthrough innovation, with knowledge inertia negatively affecting breakthrough innovation and playing a significant mediating role between cross-boundary search and breakthrough innovation (Zeng Jingwei, 2023); second, balanced search has a significantly positive impact on innovation performance, but the dual search balance model of enterprises differs between the start-up phase and the growth phase (Rui Zhengyun and Luo Jinlian, 2018); finally, cross-boundary search can promote enterprise ambidextrous innovation, and compared to follower-type cross-boundary search, forward-looking cross-boundary search has a more significant promoting effect on enterprise ambidextrous innovation (Li Xiaoyu and Xiao Dingding, 2022).

In summary, most scholars agree that cross-boundary search plays an important role in corporate innovation, establishing competitive advantages, and acquiring external heterogeneous resources. According to the resource dependence theory, a necessary step for the growth of distribution enterprises is to acquire external resources such as knowledge, technology, and capital through various channels. Therefore, theoretically, there is a significant correlation between cross-boundary search and the growth of distribution enterprises. Meanwhile, relational capital is a social network related to the survival and continuous growth of distribution enterprises (Hu Tingting and Yang Yang, 2022). Through this network, distribution enterprises can obtain resources beneficial to their own growth; furthermore, cognitive flexibility directly affects how enterprises integrate and utilize knowledge search, and thus may also be an important mechanism by which cross-boundary search impacts the growth of distribution enterprises (Wang Qingjin et al., 2022). This paper selects survey data from distribution enterprises to empirically test the impact mechanism of cross-boundary search on the growth of distribution enterprises, with the aim of providing practical insights for enhancing the growth of distribution enterprises.

2. Theoretical Analysis and Research Hypotheses

2.1 Cross-boundary Search and Growth of Distribution Enterprises

Resource dependence theory argues that relying solely on internal resources is insufficient to support a company's long-term development. Therefore, it is necessary to acquire external resources through cross-boundary search to drive breakthrough innovation and disruptive updates in market models. Scholars such as Rui Zhengyun and Luo Jinlian (2018) further categorize corporate cross-boundary search behaviors into two dimensions: proactive cross-boundary search and reactive cross-boundary search. The former refers to a company's behavior of actively and positively crossing the boundaries of its own industry based on forward-looking judgments about future market trends, technological developments, and industry changes, seeking new knowledge,

technologies, resources, market opportunities, etc., in broader fields; the latter refers to a company passively conducting cross-boundary search activities in response to challenges or crises brought by changes in the external environment, or after detecting obvious market opportunities. In theory, both proactive and reactive cross-boundary searches are conducive to enhancing the growth potential of distribution enterprises. This is because: on the one hand, the necessary condition for continuous growth of distribution enterprises is to continuously enhance their ability to dynamically integrate and restructure internal and external resources, while proactive cross-boundary search can provide broader market information, customer needs, supply chain management knowledge, etc., helping distribution enterprises grasp market dynamics and consumer trends in time, thereby making quick responses and strategic adjustments. Meanwhile, proactive cross-boundary search facilitates distribution enterprises to establish connections with partners from different fields, promoting knowledge sharing and resource integration, enhancing supply chain flexibility and risk resistance, which is crucial for fostering the growth capacity of distribution enterprises; on the other hand, reactive cross-boundary search focuses more on solving current problems or quickly catching up with market changes, and its search behavior has a certain urgency and pertinence, effectively stimulating the growth vitality of distribution enterprises. Based on this, hypothesis H1 is proposed: Cross-boundary search (proactive and reactive cross-boundary search) can enhance the growth potential of distribution enterprises.

2.2 The Mediating Effect of Relational Capital

Relational capital is an intangible asset that enterprises accumulate by establishing and maintaining a good relationship network, usually including trust, loyalty, reputation, social connections, and partnerships, which can bring competitive advantages and long-term value to enterprises. It is an important condition for improving the growth of distribution enterprises. The logic lies in: First, relational capital can help distribution enterprises form new resource combinations by integrating, resetting, and utilizing relational capital in a dynamically changing market environment, thereby promoting continuous enterprise growth; Second, by building an efficient and effective cooperative relationship network, distribution enterprises can obtain more favorable resources, directly affecting the growth rate of enterprises; Third, the accumulation of relational capital helps distribution enterprises leverage the trust and reputation within strong relationship circles when facing financing difficulties, unlocking external financing channels, achieving powerful alliances and benefit sharing, to maintain the stability of enterprise growth. Meanwhile, relational capital is continuously accumulated as enterprises seek new knowledge and resources across different fields, industries, and markets, thus cross-boundary search significantly promotes relational capital. The logic lies in: On one hand, forward-looking cross-boundary search requires distribution enterprises to actively seek external new knowledge through various channels to build a unique first-mover advantage, which is conducive to increasing enterprise network diversity and cross-boundary cooperation opportunities, promoting both parties to utilize each other's resources and networks to construct a broader new social relationship network, thereby

enhancing their relational capital; On the other hand, high relational capital is embodied by close ties between organizations, while responsive cross-boundary search focuses on integrating and utilizing existing information and prior knowledge to promote cooperation between enterprises and external stakeholders, which facilitates mutual knowledge sharing and integration, further maintaining and enhancing existing relational capital. Based on this, hypothesis H2 is proposed: Relational capital plays a significant mediating role in the impact of cross-boundary search on the growth of distribution enterprises.

2.3 The Mediating Effect of Cognitive Flexibility

Cognitive flexibility is often used to describe the ability of enterprises to flexibly adjust and update their own cognition when facing complex and changing internal and external environments (Wang Qingjin et al., 2022). Cross-boundary search not only promotes the accumulation of relational capital but also significantly impacts the enhancement of cognitive flexibility in distribution enterprises. Among these, forward-looking cross-boundary search can bring various new concepts, technologies, and heterogeneous information from different industries to distribution enterprises, potentially challenging the original cognitive patterns of enterprises, stimulating them to think about problems from new angles, and thus prompting enterprises to update their original cognitive frameworks and thinking models, cultivating more flexible and open-minded thinking. Reactive cross-boundary search, on the other hand, facilitates the integration and utilization of knowledge, technology, and market information from different fields by distribution enterprises, such as using big data analysis technology to analyze e-commerce live streaming user data, which helps enterprises shift from traditional experience-based decision-making cognition to data-driven decision-making cognition, promoting dynamic updates of cognition and concepts. Meanwhile, distribution enterprises with higher cognitive flexibility can perceive market changes and opportunities more acutely, formulating more adaptive and forward-looking strategies based on the information obtained through cross-boundary search; furthermore, cognitive flexibility enables distribution enterprises to better integrate the knowledge and resources acquired through cross-boundary search, thereby fusing knowledge from different fields, developing new business

models, services, and products, ultimately enhancing enterprise competitiveness and growth potential. Additionally, cognitive flexibility helps promote an open and inclusive organizational culture within distribution enterprises, making employees more willing to accept and adapt to changes, thereby improving the overall adaptability of the organization, ensuring that enterprises can smoothly cope with external risk impacts during the growth process. Based on this, hypothesis H3 is proposed: Cognitive flexibility plays a significant mediating role in the impact of cross-boundary search on the growth of distribution enterprises.

Among these, cross-boundary search is the independent variable, the growth of distribution enterprises is the dependent variable, and relational capital and cognitive flexibility are mediating variables.

3. Research Design

3.1 Questionnaire Design and Variable Measurement

The questionnaire in this article mainly consists of two parts: the first is a survey of basic statistical information of the sample, mainly investigating the basic situation such as the age of the company, scale, and market value; the second is the measurement of core variables using a Likert 7-point scale. Among them, boundary-spanning search refers to the scale developed by Laursen et al. (2012) and Song Jianfeng (2023), measuring in two dimensions: proactive boundary-spanning search (KS) and reactive boundary-spanning search (KJ), with a total of 6 measurement items, and Cronbach's α values of 0.905 and 0.928 respectively. The measurement of relational capital (GX) draws on the scale created by Hu Tingting and Yang Yang (2022), using 3 measurement items such as "Our company focuses on maintaining good relationships with partners," with a Cronbach's α value of 0.923; cognitive flexibility (ZY) is based on the scale developed by Wang Qingjin et al. (2022) for contextual design, including 3 measurement items such as "Our company can adopt various methods to solve one problem," with a Cronbach's α value of 0.893; the growth of trading companies (CZ) draws on the research of Liu Ping and Wu Aokai (2024), designing 4 measurement items, and the Cronbach's α value of the scale is 0.885. For details of the measurement scale, see Table 1.

Table 1: Measurement Scale

Variable	Code	Item
Proactive Cross-boundary Search (KS)	KS1	Our company actively explores new industry fields
	KS2	Our company actively attempts to apply new technologies
	KS3	Our company actively acquires new knowledge and information
Reactive Cross-boundary Search (KJ)	KJ1	Our company is committed to the improvement of existing technologies
	KJ2	Our company continuously promotes knowledge accumulation
	KJ3	Our company focuses on the integration and utilization of existing knowledge
Relational Capital (GX)	GX1	Our company values maintaining good relationships with partners
	GX2	Our company has close cooperative relationships with multiple enterprises in the industry
	GX3	Our company has cross-field cooperative relationships with enterprises in other industries
Cognitive Flexibility (ZY)	ZY1	Our company can adopt multiple methods to solve a problem
	ZY2	Our company usually has alternative plans when determining a solution
	ZY3	Our company can innovatively solve problems with creative methods
Growth of Trading Enterprises (CZ)	CZ1	Our company can maintain long-term profit growth
	CZ2	Our company has strong asset operation capabilities
	CZ3	Our company can effectively resist external risks
	CZ4	Our company has strong capabilities in expanding the supply chain

Table 2: Descriptive Statistics and Correlation Test Results

Variable	Mean	Standard Deviation	1	2	3	4	5
1. KS	4.781	0.548	1				
2. KJ	4.525	0.552	0.526**	1			
3. GX	4.039	0.612	0.629***	0.583***	1		
4. ZY	4.117	0.653	0.708***	0.546***	0.516***	1	
5. CZ	4.092	0.254	0.627***	0.583***	0.528***	0.541***	1

Note: *, **, *** indicate significance at the $P < 0.05$, $P < 0.01$, $P < 0.001$ level, same below.

3.2 Sample Selection and Data Collection

In sample selection, to eliminate regional differences, 50 distribution enterprises were selected from each of the eastern, central, and western regions as samples, and 2 senior executives from each enterprise were chosen as survey respondents. The formal questionnaire survey was conducted intensively in May-June 2024. The research was carried out by three groups simultaneously, and the survey results were triangulated through online interviews and field interviews. Ultimately, 300 questionnaires were distributed and 300 were collected; after excluding invalid questionnaires with large areas of missing answers, a total of 261 valid questionnaires were obtained, with an effective rate of 87.00%. Preliminary statistics on the survey data revealed that the sample included 148 males and 113 females. In terms of company age, enterprises with an establishment time of 3-5 years accounted for a high proportion of 62.38%, indicating that the sample enterprises had relatively short durations since founding. Regarding the average annual growth rate of enterprise market value, companies with a growth rate of 10%-20% constituted the majority, accounting for 45.72%.

4. Empirical Analysis

4.1 Descriptive Statistics and Correlation Analysis

Table 2 provides descriptive statistics and correlation tests for the sample data. From the descriptive statistics, the means of independent variables KS and KJ both exceed 4, and their standard deviations are above 0.5, indicating significant differences in cross-boundary search among different enterprises. The standard deviation of the dependent variable CZ is 0.254, suggesting minimal variation in the growth of distribution enterprises. From the correlation analysis, KS, KJ have significant positive correlations with GX, ZY, and CZ at the $P < 0.001$ level, with correlation coefficients all above 0.5, preliminarily indicating that H1 holds.

4.2 Main Effect Test

Compared with the structural equation model, the econometric model can control potential variables such as years of establishment, firm size, and market value to obtain more accurate estimation results. Therefore, the econometric model is selected to examine the impact of cross-boundary search on the growth of distribution enterprises. Table 3 presents the main effect test results, where Model 2 shows the estimation results controlling for potential variables. It can be observed that both proactive cross-boundary search ($\beta = 0.428$, $P < 0.001$) and reactive cross-boundary search ($\beta = 0.305$, $P < 0.001$) significantly and positively influence the growth of distribution enterprises, confirming that cross-boundary search enhances their growth, thus validating H1. Additionally, comparing the coefficient values, the coefficient of proactive cross-boundary search is notably

higher, indicating its stronger impact on the growth of distribution enterprises. A possible reason is that most firms in our sample are startups, and enhancing proactive cross-boundary search during the early stages of establishment is crucial for rapidly accumulating knowledge and technological foundations, thereby achieving rapid growth. Hence, compared to reactive cross-boundary search, proactive cross-boundary search has a more significant impact on the growth of distribution enterprises. Moreover, the coefficients for years of establishment, firm size, and market value are 0.415, 0.375, and 0.284, respectively, confirming that all three factors enhance the growth of distribution enterprises.

Table 3: Main Effect Test Results

Variable	Growth of trading companies	
	Model One	Model Two
KS	0.467***	0.428***
KJ	0.216***	0.305***
Years of establishment		0.415***
Company size		0.375***
Company market value		0.284***
R^2	0.648	0.675
ΔR^2	0.646	0.669
F	49.135***	51.274***

Table 4: Test results of mediating effect

Mediation path	Effect size	Standard deviation	Lower limit	Upper limit
KS-GX-CZ	0.326	0.075	0.138	0.265
KJ-GX-CZ	0.201	0.102	0.124	0.357
KS-ZY-CZ	0.263	0.068	0.142	0.259
KJ-ZY-CZ	0.194	0.116	0.129	0.322

4.3 Mediation Effect Test

In view of the weak validation power of the stepwise regression method for mediation effects, the research by Wang Qingjin et al. (2022) is referenced, and the Bootstrap method in Stata3.0 software is used to assist in conducting the mediation effect test. The results are shown in Table 4. When the confidence interval and the number of extractions are set to 95% and 1400 times respectively, the effect values of relational capital between exploratory cross-boundary search and reactive cross-boundary search and the growth of distribution enterprises are 0.326 and 0.201 in sequence. The 95% confidence intervals are [0.138,0.265] and [0.124,0.357] respectively, none of which include 0. This confirms that relational capital plays a significant mediating role between exploratory cross-boundary search and reactive cross-boundary search and the growth of distribution enterprises, verifying H2. Additionally, Table 4 also presents the test results of the mediating effect of cognitive flexibility. Consistent with the results of relational capital, the effect values of cognitive flexibility between exploratory cross-boundary search and reactive cross-boundary search and the growth of distribution enterprises are 0.263 and 0.194 respectively, and the 95% confidence intervals do not include 0, indicating that cognitive flexibility plays a significant

mediating role between exploratory cross-boundary search and reactive cross-boundary search and the growth of distribution enterprises, verifying H3.

5. Implications

First, increase investment in cross-boundary search to lay a resource foundation for enhancing the growth of distribution enterprises. First, conduct in-depth market research to understand industry needs and trends in order to better position resources and opportunities, and on this basis, determine the search targets and specific scope; second, increase technology investment. Invest in the latest search technologies such as artificial intelligence, big data analysis, and machine learning, use new technologies to integrate data from different sources, establish a unified data platform to improve search efficiency and accuracy; third, build a corporate culture of continuous learning and improvement, hire experts and researchers with cross-boundary search experience, encourage employees to continuously learn new knowledge, adapt to the ever-changing market and technological environment, and acquire new resources and knowledge, laying a solid foundation for high enterprise growth (Quan Lingyan, 2018).

Second, continuously expand external relationship networks to accumulate relational capital for enhancing the growth of distribution enterprises. External relationship networks are crucial for enterprise growth as they can help businesses acquire resources, information, and opportunities. For this reason, distribution enterprises should first establish a professional image, ensuring the company has a professional image and clear brand positioning to attract potential partners and customers; second, actively participate in industry conferences and events, regularly attend industry meetings, seminars, and exhibitions, and fully utilize the opportunities to establish new connections and maintain existing relationships (Li Yuquan, 2023); third, use social media to connect with industry professionals and share valuable content, continuously expanding new contacts through referrals from existing customers, partners, and employees.

Third, enhance cognitive flexibility and form an open and inclusive cognitive model and thinking approach to promote continuous business growth. On one hand, it is necessary to actively improve employees' cognitive abilities by offering training programs covering market trend analysis, consumer psychology insights, and emerging technology applications, inviting industry experts and scholars to teach, thereby strengthening employees' understanding and grasp of diverse knowledge fields. On the other hand, an innovative and inclusive corporate culture must be fostered. Innovation should be established as a core value, promoted through internal publications, bulletin boards, meetings, and other channels to share innovation concepts and success stories, while creating mechanisms that encourage trial and error, cultivating a relaxed environment for innovation, allowing innovative thinking to take root.

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