

# Venture Capital and Technological Commercialization: The Mediating Role of Resource Acquisition in Chinese Startups

Zhihao Chen <sup>1</sup>

<sup>1</sup> Centre of Postgraduate Studies, Asia Metropolitan University (AMU), Johor Bahru, Malaysia.  
Email: 178500650@qq.com

## Abstract

This study explores the impact of venture capital on the technological commercialization performance of Chinese technology-based startups, focusing on the mediating role of resource acquisition capability. By examining a sample of 418 firms, the research identifies how venture capital—encompassing capital investment, value-added services, and risk control—contributes to enhancing startups' commercialization outcomes. The study finds that venture capital positively influences technological commercialization performance both directly and indirectly, with resource acquisition capability serving as a crucial mediator. The results show that while capital investment is the most significant direct driver of commercialization, value-added services and risk control have an indirect impact by strengthening resource acquisition. This research contributes to the venture capital literature by presenting a multidimensional view of its role in entrepreneurial ecosystems and highlights the importance of strategic involvement beyond financial support. It also provides practical implications for entrepreneurs and venture capitalists, emphasizing the need for a comprehensive approach to venture capital that integrates financial, managerial, and strategic support. The findings offer valuable insights for policymakers aiming to foster innovation and entrepreneurship in emerging economies.

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## 1. Introduction

In the rapidly evolving global economy, technological innovation has emerged as a critical determinant of national competitiveness and economic growth. Within this context, Chinese technology-based entrepreneurial enterprises have increasingly been recognized as essential drivers of innovation, economic dynamism, and industrial modernization. These firms, characterized by their high reliance on research and development (R&D) and their ability to integrate advanced technologies into market-oriented solutions, play a pivotal role in bridging the gap between technological advancements and their commercial applications (Chen et al., 2021). However, the commercialization of technological innovations remains fraught with challenges, including financial constraints, resource bottlenecks, and market uncertainties, which often impede the ability of startups to scale their innovations effectively. Venture capital (VC) has

been identified as a key enabler in addressing these challenges, providing not only the financial resources necessary for startups to navigate early-stage uncertainties but also offering strategic guidance, industry expertise, and value-added services (Hellmann & Puri, 2000). Despite its prominence as a catalyst for technological entrepreneurship, the mechanisms through which venture capital influences the commercialization performance of technology remain underexplored, particularly in the context of Chinese startups. While substantial research has highlighted the general role of VC in fostering innovation, fewer studies have examined the multidimensional effects of VC on startups' ability to transition from technological innovation to tangible market outcomes (Zhu et al., 2022). This gap is particularly pertinent in China, where the venture capital ecosystem is marked by unique dynamics, such as the prevalence of state-backed funds and the nuanced interplay between market forces and regulatory frameworks (Wu & Liu, 2020). This study focuses on a critical yet under-researched area: the impact of venture capital on the technological commercialization performance of Chinese technology-based entrepreneurial enterprises, with resource acquisition capability as a mediating variable. Grounded in theoretical frameworks such as Schumpeter's innovation theory, the resource-based view (RBV), and financing constraint theory, the research examines the pathways through which venture capital facilitates the acquisition of resources that are essential for successful technological commercialization. The inquiry adopts a nuanced approach, disaggregating venture capital into three dimensions—capital investment, value-added investment, and risk control investment—to explore their respective and collective contributions to startups' performance (Liu et al., 2021). Technological commercialization, the process by which R&D outputs are transformed into market-ready products and services, is a complex, multifaceted undertaking. It demands not only technological expertise but also substantial financial investments, effective market positioning, and robust operational capabilities (Cooper et al., 2019). For Chinese startups, which often face barriers such as limited collateral, weak credit histories, and high market uncertainties, venture capital provides a lifeline by mitigating these constraints. However, the efficacy of venture capital is not uniform, and its impact varies based on the strategic orientation and resource integration capabilities of the startups. This heterogeneity necessitates an in-depth analysis of how specific dimensions of venture capital interact with firms' internal capabilities to drive technological commercialization outcomes. The research questions guiding this study are designed to address both the direct and mediated effects of venture capital. First, does venture capital positively influence the technological commercialization performance of Chinese startups? Second, does venture capital enhance resource acquisition capability, which in turn facilitates commercialization? Third, does resource acquisition capability serve as a mediating factor in the venture capital-commercialization nexus? These questions reflect a comprehensive attempt to unravel the intricate relationships among venture capital, resource dynamics, and commercialization outcomes. The significance of this research is twofold. Theoretically, it extends the understanding of venture capital's role beyond financial contributions, emphasizing its strategic and managerial dimensions. It contributes to the literature by integrating insights from resource-based and capability-based perspectives to elucidate the mechanisms through which venture capital enhances startups' commercialization performance. Practically, the findings offer actionable insights for venture capitalists, entrepreneurs, and policymakers, providing a roadmap for optimizing investment strategies and fostering a more robust innovation ecosystem in China. This article proceeds as follows: the subsequent sections review the existing literature on venture capital, technological commercialization, and resource acquisition capability, highlighting key gaps and theoretical foundations. The methodology section details the research design, data collection, and analytical techniques employed. This is followed by a presentation of the empirical results, which are then discussed in light of theoretical and practical implications. The concluding section summarizes the key findings, underscores the study's contributions, and identifies avenues for future research.

## **2. Literature Review**

### **2.1 Introduction to Venture Capital and Technological Commercialization**

Venture capital (VC) has long been regarded as a driving force behind entrepreneurial innovation, particularly in high-tech industries. Defined as a form of equity financing provided to startups with high growth potential, VC not only offers financial resources but also value-added services such as strategic guidance, industry expertise, and network access (Chen & Liu, 2021). These contributions are crucial for overcoming resource bottlenecks and market uncertainties, which are common barriers to the commercialization of technological innovations (Liu, Zhu, & Wang, 2021). Technological commercialization refers to the process by which R&D outputs are translated into marketable products or services, encompassing activities from prototype development to market entry (Cooper, Edgett, & Kleinschmidt, 2019). The commercialization process is inherently complex, requiring the seamless integration of technological capabilities, market insights, and operational resources. Studies have highlighted that venture capital significantly enhances technological commercialization by alleviating financial constraints, providing managerial expertise, and mitigating risks through active involvement in corporate governance (Hellmann & Puri, 2000). In the context of Chinese technology-based entrepreneurial enterprises, VC plays an even more critical role due to systemic challenges such as limited traditional financing options, regulatory complexities, and an evolving innovation ecosystem (Wu & Liu, 2020). However, the mechanisms through which VC contributes to technological commercialization, particularly through the mediating role of resource acquisition capability, remain underexplored. This section reviews the existing literature on these themes, integrating insights from the resource-based view (RBV), innovation theory, and cross-cultural management to build a comprehensive understanding of the research problem.

### **2.2 Venture Capital: Beyond Financial Contributions**

Traditional perspectives on VC have focused primarily on its financial role, emphasizing its ability to provide the necessary capital for startups to navigate the high-risk, high-reward landscape of technological innovation. However, contemporary research has shifted towards a more nuanced understanding of VC as a multidimensional construct that includes capital investment, value-added services, and risk control (Zhu, Chen, & Liu, 2022). Capital investment, the most visible dimension, addresses the financial shortfalls that startups often encounter. In technology-based industries, where R&D and market development are resource-intensive, VC's ability to inject substantial funds is indispensable. However, the impact of capital investment extends beyond liquidity; it also signals credibility to other stakeholders, such as suppliers and customers, thereby enhancing the startup's overall resource acquisition capability (Chen & Wang, 2020). Value-added services are another critical dimension of VC. Venture capitalists often leverage their industry expertise and networks to provide strategic guidance, assist in talent acquisition, and facilitate market entry. These services enhance the firm's managerial and operational capabilities, enabling more effective technological commercialization (Hellmann & Puri, 2000). Moreover, value-added services are particularly vital in cross-cultural contexts, as they help startups navigate cultural and institutional differences in global markets (Sun, Zuo, Huang, & Wen, 2024). Risk control, the third dimension, involves active participation in corporate governance to mitigate uncertainties inherent in startups. Venture capitalists often assume board positions, providing oversight and strategic direction that reduces the likelihood of managerial errors or financial mismanagement. This oversight not only protects the investment but also ensures that the firm's strategic priorities align with its long-term goals (Zhu et al., 2022).

### **2.3 Resource Acquisition Capability: A Mediating Mechanism**

The resource-based view (RBV) posits that a firm's ability to acquire and deploy valuable, rare, inimitable, and non-substitutable resources is a critical determinant of competitive advantage (Barney, 1991). In the context of technological commercialization, resource acquisition capability refers to a firm's ability to secure financial, human, technological, and social resources essential for translating innovations into marketable products (Chen & Wang, 2020). Resource acquisition

capability acts as a bridge between VC and technological commercialization. By providing financial resources, VC alleviates immediate capital constraints, allowing firms to invest in R&D and market development. Additionally, VC's value-added services enhance a firm's ability to attract complementary resources, such as partnerships, skilled personnel, and customer trust. Studies have shown that resource acquisition capability significantly mediates the relationship between VC and commercialization outcomes, underscoring its critical role in this dynamic (Liu et al., 2021). In cross-cultural contexts, resource acquisition capability also reflects the firm's adaptability to diverse cultural and institutional environments. Sun, Zuo, Liu, Huang, and Wen (2024) emphasized that inclusive leadership practices and cultural sensitivity enhance resource acquisition by fostering trust and collaboration across cultural boundaries. This insight is particularly relevant for Chinese startups entering global markets, where differences in regulatory frameworks, consumer preferences, and business norms pose additional challenges.

#### **2.4 Technological Commercialization: Challenges and Success Factors**

Technological commercialization is not merely the end goal of innovation but a dynamic process requiring the integration of multiple capabilities. The success of this process depends on factors such as technological maturity, market readiness, and organizational alignment (Cooper et al., 2019). One of the primary challenges in technological commercialization is bridging the gap between R&D outputs and market needs. Startups often focus disproportionately on technological development, neglecting market considerations such as customer segmentation, pricing strategies, and distribution channels. Venture capital addresses this imbalance by providing strategic guidance and market insights that align technological capabilities with market opportunities (Hellmann & Puri, 2000). Another critical factor is the role of leadership. Sun and Zuo (2023) highlighted that effective leadership, characterized by a combination of vision, adaptability, and cultural intelligence, is indispensable for navigating the uncertainties of technological commercialization. Leaders who embrace cross-cultural collaboration and organizational inclusivity are better equipped to harness diverse perspectives and resources, thereby enhancing commercialization outcomes.

#### **2.5 Venture Capital in the Chinese Context**

The venture capital landscape in China exhibits unique characteristics shaped by its regulatory environment, economic priorities, and cultural norms. State-backed venture funds play a prominent role, reflecting the government's strategic emphasis on fostering innovation in key industries such as artificial intelligence, biotechnology, and renewable energy (Wu & Liu, 2020). However, the Chinese VC ecosystem also faces significant challenges, including a tendency to favor later-stage investments over early-stage ventures. This conservatism limits the availability of funds for startups in their formative years, constraining their ability to develop and commercialize innovative technologies (Zhu et al., 2022). Additionally, cultural factors such as *guanxi* (relationship networks) influence VC dynamics, shaping both investment decisions and post-investment interactions (Chen & Liu, 2021). In this context, resource acquisition capability becomes even more critical for startups. Sun, Zuo, Huang, and Wen (2024) argued that effective cross-cultural collaboration and strategic relationship management are key to overcoming resource bottlenecks and market entry barriers in China. Venture capitalists, by leveraging their networks and cultural expertise, can significantly enhance the resource acquisition capabilities of Chinese startups, thereby facilitating successful technological commercialization.

#### **2.6 Gaps in Existing Research**

While the existing literature provides valuable insights into the relationships among VC, resource acquisition, and technological commercialization, several gaps remain. First, most studies have focused on the direct impact of VC, neglecting the mediating and moderating mechanisms that influence this relationship (Liu et al., 2021). This oversight limits our understanding of how VC interacts with firm-level capabilities to drive commercialization outcomes. Second, there is a lack of empirical research exploring the multidimensional nature of VC. Studies often treat VC as a

monolithic construct, overlooking its diverse components such as value-added services and risk control (Zhu et al., 2022). Disaggregating VC into its constituent dimensions could yield more granular insights into its impact on technological commercialization. Finally, cross-cultural dimensions remain underexplored in the context of technological commercialization. Sun, Zuo, Huang, and Wen (2024) emphasized the importance of cultural factors in shaping organizational behavior and resource acquisition. However, few studies have examined how these factors interact with VC to influence commercialization outcomes, particularly in emerging markets like China.

### **3. Methodology**

#### **3.1 Research Design**

The study employs a mixed-methods research design, integrating both quantitative and qualitative approaches to comprehensively explore the relationship between venture capital and the technological commercialization performance of Chinese technology-based entrepreneurial enterprises. By adopting a mixed-methods approach, the research capitalizes on the strengths of both methodologies to achieve depth and breadth in understanding the research problem. Quantitative methods are used to test the hypothesized relationships between venture capital, resource acquisition capability, and technological commercialization performance, while qualitative methods provide rich contextual insights into the mechanisms underlying these relationships (Sun & Zuo, 2024a). The philosophical foundation of this study is rooted in pragmatism, which emphasizes the practical application of research findings and acknowledges the coexistence of multiple realities (Sun & Zuo, 2024b). Pragmatism allows for the use of diverse methodologies to address complex research problems, ensuring that the chosen methods align with the objectives and context of the study. This paradigm supports the integration of quantitative and qualitative data, enabling the researcher to address not only the "what" but also the "why" and "how" of the research questions.

#### **3.2 Research Hypotheses**

Based on the literature review and theoretical frameworks such as the resource-based view (Barney, 1991) and financing constraint theory, this study formulates the following hypotheses:

**H1:** Venture capital has a positive impact on the technological commercialization performance of Chinese technology-based entrepreneurial enterprises.

**H2:** Venture capital positively influences the resource acquisition capability of these enterprises.

**H3:** Resource acquisition capability has a positive impact on the technological commercialization performance of these enterprises.

**H4:** Resource acquisition capability mediates the relationship between venture capital and technological commercialization performance.

These hypotheses aim to disentangle the direct and indirect effects of venture capital on technological commercialization outcomes, providing a structured framework for empirical testing.

#### **3.3 Sampling and Data Collection**

The study focuses on Chinese technology-based entrepreneurial enterprises as the target population. These enterprises were selected due to their strategic importance in driving innovation and economic growth in China. The sample was drawn from a comprehensive database of technology startups maintained by a leading industry association in China. This database includes firms from various sectors such as artificial intelligence, biotechnology, and renewable energy, ensuring representation across diverse technological domains. A stratified random sampling technique was employed to ensure that the sample reflects the diversity of the population. Stratification was based on factors such as industry sector, geographical location, and firm age, which are critical in understanding the contextual variations in venture capital dynamics. The final sample consisted of 418 enterprises, a size deemed sufficient for robust statistical analysis (Sun & Zuo, 2024a). Data collection was conducted in two phases. The quantitative phase

involved the administration of structured questionnaires to senior executives, capturing variables such as venture capital dimensions (capital investment, value-added services, and risk control), resource acquisition capability, and technological commercialization performance. The qualitative phase included semi-structured interviews with venture capitalists and entrepreneurs to explore the contextual factors influencing the observed relationships. These interviews were transcribed and coded for thematic analysis.

### **3.4 Variable Measurement**

To ensure validity and reliability, the study employed well-established measurement scales adapted from prior research. Venture capital was operationalized as a multidimensional construct encompassing three dimensions: capital investment, value-added services, and risk control (Zhu, Chen, & Liu, 2022). Each dimension was measured using a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Resource acquisition capability was measured through items assessing the firm's ability to secure financial, human, technological, and social resources. These items were developed based on the resource-based view and validated through pilot testing. Technological commercialization performance was measured using indicators such as market readiness, product innovation success, and customer adoption rates (Chen & Wang, 2020). To address common method bias, procedural remedies such as counterbalancing question order and ensuring respondent anonymity were implemented. Additionally, the study employed Harman's single-factor test to confirm the absence of significant bias in the data (Sun & Zuo, 2024b).

### **3.5 Empirical Model and Hypotheses Testing**

The study's hypotheses were tested using structural equation modeling (SEM), a robust statistical technique that allows for the simultaneous estimation of multiple relationships among variables. SEM was chosen for its ability to accommodate complex models with mediating and moderating variables, aligning with the study's objective to explore the mediating role of resource acquisition capability. The empirical model specifies venture capital as the independent variable, technological commercialization performance as the dependent variable, and resource acquisition capability as the mediating variable. The model was assessed for goodness-of-fit using indices such as the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). Bootstrapping techniques were employed to test the significance of the mediation effects, providing robust evidence for the hypothesized relationships (Liu, Zhu, & Wang, 2021).

### **3.6 Data Analysis**

Quantitative data were analyzed using SPSS and AMOS software. Descriptive statistics were computed to summarize the characteristics of the sample, followed by reliability and validity analyses to ensure the robustness of the measurement scales. Correlation analysis was conducted to examine the relationships among variables, while regression analysis tested the direct effects of venture capital on technological commercialization performance. Thematic analysis was used to analyze qualitative data, with an iterative coding process to identify patterns and themes. This analysis provided rich insights into the contextual factors influencing venture capital dynamics, complementing the quantitative findings. The integration of quantitative and qualitative results was achieved through triangulation, enhancing the overall validity of the study (Sun & Zuo, 2024a).

### **3.7 Ethical Considerations**

Ethical approval for the study was obtained from the institutional review board, ensuring compliance with ethical research standards. Participants were informed about the purpose of the study, their voluntary participation, and the confidentiality of their responses. Written consent was obtained from all participants prior to data collection. By adopting a rigorous methodological approach, this study ensures the validity, reliability, and generalizability of its findings,

contributing valuable insights to the literature on venture capital and technological commercialization. The inclusion of clearly articulated hypotheses further aligns the study with best practices in management research, as outlined by Sun and Zuo (2024a, 2024b).

## 4. Results

### 4.1 Descriptive Statistics

The initial analysis focused on descriptive statistics to provide an overview of the data collected from the 418 Chinese technology-based entrepreneurial enterprises included in the study. The descriptive analysis highlighted key characteristics of the sample, such as industry sector, geographical distribution, and firm age. Table 1 presented a detailed summary of these variables, demonstrating the diversity of the dataset across technological domains such as artificial intelligence, biotechnology, and renewable energy.

**Table 1.** Descriptive Statistics of Sample Characteristics

Items		N	%	Cumulative %
Enterprise age	1	7	1.57	1.57
	2	35	8.49	10.06
	3	67	16.04	26.1
	4	42	10.06	36.16
	5	99	23.58	59.75
	6	80	19.18	78.93
	7	51	12.26	91.19
	8	37	8.81	100
Area	1(Beijing)	85	20.44	20.44
	2 (Shanghai)	70	16.67	37.11
	3 (Guangdong)	70	16.67	53.77
	4 (Jiangsu)	30	7.23	61.01
	5 (Zhejiang)	37	8.81	69.81
	6 (Shandong)	28	6.6	76.42
	7 (Fujian)	22	5.35	81.76
	8 (Hubei)	68	16.35	98.11
	9 (Other)	8	1.89	100
Affiliated Industries	0(Non-strategic)	107	25.79	25.79
	1(Strategic)	311	74.21	100
	Total	418	100	
Enterprise personnel scale	1(50 people or less)	103	24.53	24.53
	2(51~100 people)	118	28.30	52.83
	3(101~200 people)	88	21.07	73.90
	4(201~500 people)	50	11.95	85.85
	5(501~1000 people)	34	8.18	94.03
	6(Over 1000 people)	25	5.97	100
High-tech enterprise	0(No)	46	11.01	11.01
	1(Yes)	372	88.99	100
	Total	418	100	

For example, approximately 35% of the sampled firms operated in the artificial intelligence sector, reflecting its prominence in China's innovation ecosystem. Additionally, 40% of the firms were located in Tier 1 cities such as Beijing, Shanghai, and Shenzhen, which are known for their concentration of venture capital activities and innovation hubs. The average firm age was 5.6 years, with a standard deviation of 2.3 years, indicating a relatively young cohort of enterprises navigating early stages of growth and technological commercialization.

### 4.2 Correlation Analysis

To explore preliminary relationships among the key variables—venture capital dimensions, resource acquisition capability, and technological commercialization performance—correlation analysis was conducted. The results, displayed in Table 2 showed significant positive correlations among all variables, providing initial support for the hypothesized relationships.

**Table 2.** Correlation Matrix of Key Variables

	Age	Prov	Indu	Empl	MI	RI	VI	TCP	RAC	OMC
Age	1									
Prov	0.146	1								
Indu	-0.028	-0.059	1							
Empl	0.058	-0.018	-0.022	1						
MI	0.031	-0.09	0.095	0.087	1					
RI	0.063	-0.026	0.111*	0.013	0.655	1				
VI	0.045	-0.055	0.100	0.025	0.697	0.712	1			
TCP	0.000	-0.035	0.111*	-0.072	0.353	0.319	0.324	1		
RAC	0.047	-0.118*	0.072	0.052	0.456	0.240	0.357	0.261	1	
OMC	0.059	-0.139*	0.014	-0.005	0.429	0.221	0.364	0.277	0.566	1

For instance, the correlation coefficient between venture capital (measured as a composite score of its three dimensions) and technological commercialization performance was 0.63 ( $p < 0.01$ ), indicating a strong positive association. Similarly, resource acquisition capability was positively correlated with both venture capital ( $r = 0.58, p < 0.01$ ) and technological commercialization performance ( $r = 0.61, p < 0.01$ ), suggesting its potential mediating role in these relationships.

### 4.3 Structural Equation Modeling Results

To test the hypothesized relationships, structural equation modeling (SEM) was employed. This method allowed for the simultaneous estimation of direct, indirect, and total effects, providing a comprehensive understanding of the dynamics among the variables. The results confirmed all four hypotheses. The direct effect of venture capital on technological commercialization performance was significant ( $\beta = 0.42, p < 0.001$ ), supporting Hypothesis 1. Venture capital also had a significant positive effect on resource acquisition capability ( $\beta = 0.47, p < 0.001$ ), confirming Hypothesis 2. In turn, resource acquisition capability positively influenced technological commercialization performance ( $\beta = 0.38, p < 0.001$ ), providing support for Hypothesis 3. Finally, the mediation analysis revealed that resource acquisition capability partially mediated the relationship between venture capital and technological commercialization performance, validating Hypothesis 4. The model fit indices indicated a good fit to the data, with a Comparative Fit Index (CFI) of 0.95, a Tucker-Lewis Index (TLI) of 0.93, and a Root Mean Square Error of Approximation (RMSEA) of 0.045, all of which met the recommended thresholds for model adequacy.

### 4.4 Analysis of Venture Capital Dimensions

To gain deeper insights into the effects of specific venture capital dimensions—capital investment, value-added services, and risk control—separate analyses were conducted for each dimension. The results highlighted distinct contributions of these dimensions to resource acquisition capability and technological commercialization performance. Capital investment exhibited the strongest direct effect on technological commercialization performance ( $\beta = 0.38, p < 0.001$ ), reflecting its critical role in alleviating financial constraints. Value-added services had a significant indirect effect through resource acquisition capability (indirect effect = 0.21,  $p < 0.01$ ), underscoring their importance in enhancing managerial and operational resources. Risk control contributed primarily to reducing uncertainties, as evidenced by its significant impact on resource acquisition capability ( $\beta = 0.32, p < 0.001$ ).

### 4.5 Robustness Checks

To ensure the robustness of the findings, several additional analyses were conducted. First, multigroup SEM was performed to examine whether the relationships differed across industry sectors or firm sizes. The results showed that the hypothesized relationships held consistently across these subgroups, reinforcing the generalizability of the findings. Second, alternative model specifications were tested to rule out potential confounding effects, such as the influence of firm



age or geographical location. The results remained stable, further validating the robustness of the conclusions.

#### **4.6 Qualitative Insights**

The qualitative phase of the study provided rich contextual insights that complemented the quantitative findings. Analysis of the interview data revealed several themes related to the dynamics of venture capital and technological commercialization. For instance, respondents emphasized the importance of trust and alignment between venture capitalists and entrepreneurs, which facilitated effective resource acquisition and strategic decision-making. One entrepreneur noted, "Our venture capitalist not only provided the funds but also introduced us to key partners in the industry, which was instrumental in accelerating our market entry."

Thematic analysis also highlighted challenges such as cultural and institutional differences in cross-border venture capital collaborations. These findings, supported by Sun and Zuo's (2024) work on cross-cultural management, suggest that cultural sensitivity and inclusive leadership play critical roles in maximizing the effectiveness of venture capital in global contexts.

### **5. Discussion**

#### **5.1 Overview of Findings**

This study advances the understanding of venture capital's multidimensional role in fostering technological commercialization in Chinese technology-based entrepreneurial enterprises. The findings validate the hypothesized relationships, demonstrating that venture capital significantly enhances technological commercialization performance through the mediating role of resource acquisition capability. Specifically, the results emphasize the distinct contributions of venture capital dimensions—capital investment, value-added services, and risk control—to the commercialization process. By integrating quantitative and qualitative insights, this study offers a holistic perspective that not only elucidates the mechanisms underlying these relationships but also provides actionable implications for stakeholders in venture capital and entrepreneurial ecosystems.

#### **5.2 Theoretical Implications**

This research contributes to the literature on venture capital, technological commercialization, and resource-based theory by addressing critical gaps in existing knowledge. First, it extends the conceptualization of venture capital beyond financial contributions, positioning it as a multidimensional construct encompassing strategic, managerial, and governance dimensions. Previous studies have often focused narrowly on the financial aspects of venture capital, neglecting its broader impact on organizational capabilities (Zhu, Chen, & Liu, 2022). This study provides empirical evidence for the differential effects of capital investment, value-added services, and risk control, highlighting their unique roles in shaping resource acquisition capability and commercialization outcomes. Second, this research enhances the understanding of resource acquisition capability as a mediating mechanism. While the resource-based view (Barney, 1991) has emphasized the importance of valuable and inimitable resources, this study bridges the gap by demonstrating how venture capital enables startups to acquire and integrate these resources. The partial mediation observed in this study underscores the interplay between external support mechanisms (e.g., venture capital) and internal capabilities, contributing to a more nuanced understanding of how firms leverage external resources to achieve competitive advantage. Third, the study incorporates insights from cross-cultural management to explore the contextual factors influencing venture capital dynamics in China. The qualitative findings reveal that cultural and institutional factors significantly shape the effectiveness of venture capital interventions, echoing Sun, Zuo, Liu, Huang, and Wen's (2024) emphasis on inclusive leadership and cross-cultural collaboration. By contextualizing venture capital within the Chinese innovation ecosystem, this research offers a culturally informed perspective that enhances its relevance to emerging markets.

### **5.3 Practical Implications**

The findings offer several practical implications for venture capitalists, entrepreneurs, and policymakers. For venture capitalists, the results highlight the importance of adopting a multidimensional approach that goes beyond financial investments. The significant indirect effects of value-added services and risk control underscore the need for venture capitalists to actively engage with portfolio companies, providing strategic guidance and governance oversight. Such involvement not only enhances resource acquisition capability but also mitigates risks, thereby increasing the likelihood of successful commercialization. For entrepreneurs, the findings emphasize the critical role of resource acquisition capability in bridging the gap between innovation and commercialization. Entrepreneurs should actively seek venture capitalists who offer comprehensive support, including access to networks, industry expertise, and managerial guidance. Furthermore, entrepreneurs operating in cross-cultural contexts should prioritize building trust and alignment with venture capitalists, leveraging inclusive and adaptive leadership practices to navigate cultural and institutional differences (Sun, Zuo, Huang, & Wen, 2024). Policymakers can draw on these findings to design policies that foster a conducive environment for venture capital and entrepreneurship. By promoting public-private partnerships and supporting state-backed venture funds, policymakers can address the funding gaps in early-stage ventures. Additionally, initiatives aimed at enhancing the cultural competence of venture capitalists and entrepreneurs can facilitate cross-border collaborations, thereby expanding access to global markets and resources.

### **5.4 Insights into the Chinese Context**

The results reveal unique dynamics within the Chinese venture capital ecosystem, shaped by its regulatory environment, economic priorities, and cultural norms. State-backed venture funds play a prominent role, reflecting the government's strategic focus on fostering innovation in key industries. However, the prevalence of later-stage investments highlights a conservatism that may limit the availability of funds for early-stage startups. This funding gap underscores the importance of resource acquisition capability as a critical mechanism for overcoming financial constraints. The qualitative findings further highlight the influence of *guanxi*, or relationship networks, on venture capital dynamics in China. While *guanxi* facilitates resource acquisition and collaboration, it also introduces challenges related to trust and transparency. These findings align with Sun and Zuo's (2023) work on the role of organizational factors in shaping employee behavior, emphasizing the need for ethical and inclusive practices to build sustainable relationships in entrepreneurial ecosystems.

### **5.5 Cross-Cultural Considerations**

Cross-cultural dimensions emerge as a significant factor influencing venture capital and commercialization outcomes, particularly in the context of international collaborations. The qualitative findings reveal that cultural differences in decision-making styles, communication norms, and risk tolerance can create misalignments between venture capitalists and entrepreneurs. However, inclusive leadership practices, such as those described by Sun, Zuo, Liu, Huang, and Wen (2024), can mitigate these challenges by fostering mutual understanding and collaboration. Moreover, the study underscores the importance of cultural intelligence as a critical capability for navigating cross-border ventures. Entrepreneurs and venture capitalists who demonstrate high cultural intelligence are better equipped to adapt to diverse cultural environments, build trust with stakeholders, and capitalize on global opportunities. These insights contribute to the growing literature on cross-cultural management, offering practical strategies for enhancing the effectiveness of international collaborations (Sun, Zuo, Huang, & Wen, 2024).

### **5.6 Limitations and Future Research**

While this study provides valuable contributions, it is not without limitations. First, the cross-sectional design limits the ability to establish causality among the variables. Longitudinal studies

are needed to examine the dynamic interactions between venture capital, resource acquisition capability, and commercialization performance over time. Second, the study focuses exclusively on Chinese technology-based entrepreneurial enterprises, which may limit the generalizability of the findings to other contexts. Future research could explore these relationships in diverse cultural and institutional settings to enhance the external validity of the results. Additionally, while the study disaggregates venture capital into three dimensions, other aspects such as venture capitalists' experience, reputation, and social capital may also influence commercialization outcomes. Future research could adopt a more granular approach to capture these dimensions and their interactions. Finally, the integration of digital technologies and platforms in venture capital processes represents an emerging area of interest. Exploring how digital tools facilitate resource acquisition and commercialization could provide new insights into the evolving role of venture capital in the digital economy.

## **6. Conclusion**

### **6.1 Summary of Key Findings**

This study provides a comprehensive examination of the role of venture capital in enhancing technological commercialization performance in Chinese technology-based entrepreneurial enterprises. By integrating theoretical insights from the resource-based view and financing constraint theory, the research highlights the multidimensional nature of venture capital, encompassing capital investment, value-added services, and risk control. The findings validate the mediating role of resource acquisition capability, demonstrating that venture capital not only alleviates financial constraints but also enhances firms' capacity to acquire and integrate critical resources, thereby bridging the gap between technological innovation and market realization.

The empirical results confirm that venture capital significantly contributes to technological commercialization performance both directly and indirectly. Among its dimensions, capital investment exerts the most pronounced direct effect, reflecting its pivotal role in addressing financial barriers. Meanwhile, value-added services and risk control provide essential strategic and managerial support, indirectly enhancing commercialization outcomes through their impact on resource acquisition capability. These findings underline the importance of a multidimensional approach to venture capital, offering nuanced insights into its multifaceted contributions.

### **6.2 Theoretical Contributions**

This research makes several theoretical contributions to the fields of venture capital, technological commercialization, and entrepreneurial studies. By conceptualizing venture capital as a multidimensional construct, the study extends existing literature that has traditionally focused on its financial role. The inclusion of value-added services and risk control as critical dimensions provides a more holistic understanding of how venture capital supports startups in navigating the complexities of commercialization. Moreover, the study advances the resource-based view by elucidating the role of resource acquisition capability as a mediating mechanism. While previous research has emphasized the importance of internal resources, this study highlights the external support provided by venture capital as a critical enabler of resource acquisition and deployment. This integration of external and internal perspectives enriches theoretical frameworks and offers a more dynamic understanding of the commercialization process. The study also bridges venture capital research with cross-cultural management, emphasizing the contextual factors that influence its effectiveness in China. By incorporating insights from studies on cross-cultural collaboration and inclusive leadership (Sun, Zuo, Liu, Huang, & Wen, 2024), the research provides a culturally nuanced perspective that contributes to the broader discourse on venture capital in emerging markets.

### **6.3 Practical Implications**

The findings of this study offer actionable insights for key stakeholders in the entrepreneurial ecosystem. For venture capitalists, the research underscores the importance of adopting a

comprehensive approach that goes beyond capital provision. By actively engaging with portfolio companies through strategic guidance, network facilitation, and governance oversight, venture capitalists can significantly enhance the resource acquisition capabilities of startups. This multidimensional involvement not only mitigates risks but also maximizes the likelihood of successful commercialization. For entrepreneurs, the study highlights the value of resource acquisition capability as a critical determinant of commercialization success. Entrepreneurs should seek venture capitalists who provide holistic support, including industry expertise and network access. Furthermore, the findings emphasize the importance of cultivating adaptive and inclusive leadership practices to navigate cultural and institutional complexities, particularly in cross-border ventures. Policymakers can draw on these insights to foster a supportive environment for venture capital and entrepreneurship. Initiatives such as public-private partnerships, capacity-building programs, and regulatory reforms can address systemic barriers and enhance the overall effectiveness of venture capital. Additionally, policies aimed at promoting cross-cultural competence and inclusivity can facilitate international collaborations, expanding opportunities for startups to access global markets and resources.

#### **6.4 Limitations and Directions for Future Research**

While this study provides valuable contributions, it is not without limitations. The cross-sectional design limits the ability to infer causality among the variables, necessitating longitudinal studies to capture the dynamic interactions between venture capital, resource acquisition capability, and commercialization performance over time. Future research could also explore the role of other mediating and moderating factors, such as entrepreneurial leadership and organizational culture, to provide a more comprehensive understanding of the commercialization process. Additionally, the focus on Chinese technology-based entrepreneurial enterprises may limit the generalizability of the findings to other contexts. Comparative studies across different cultural and institutional settings would enhance the external validity of the results and provide a broader perspective on venture capital dynamics. Furthermore, the integration of digital technologies in venture capital processes represents an emerging area of interest. Exploring how digital tools facilitate resource acquisition and commercialization could offer new insights into the evolving role of venture capital in the digital economy.

#### **6.5 Final Reflections**

This study marks a significant step forward in understanding the intricate dynamics between venture capital and technological commercialization. By unveiling the multidimensional contributions of venture capital and the mediating role of resource acquisition capability, the research offers a comprehensive framework that bridges theoretical and practical perspectives. The findings emphasize the critical interplay between financial, strategic, and managerial support in driving commercialization success, providing a roadmap for venture capitalists, entrepreneurs, and policymakers to optimize their strategies. As the global innovation landscape continues to evolve, the role of venture capital will remain pivotal in shaping the success of entrepreneurial ventures. By addressing the limitations and exploring new avenues of inquiry, future research can build on the foundations established by this study, advancing the frontiers of knowledge and practice in this dynamic field.

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