

Original Paper

Evolution Logic and Governance Path of Vulnerability in
Return-to-Hometown E-commerce Entrepreneurship: Evidence
from Coastal Sub-center Cities in Guangdong

Yu Fan^{1,2*} & Shuqing Liang¹

¹ Business School, Lingnan Normal University, Zhanjiang, China

² Guangdong Coastal Economic Belt Development Research Center, Zhanjiang, China

* Corresponding Author, Yu Fan, E-mail: fany@lingnan.edu.cn

Received: May 9, 2026

Accepted: June 2, 2026

Online Published: June 14, 2026

doi:10.22158/jepf.v12n2p151

URL: <http://dx.doi.org/10.22158/jepf.v12n2p151>

Abstract

With the deep integration of the "Digital Commerce for Agriculture" strategy and the Rural Revitalization strategy, return-to-hometown e-commerce entrepreneurship has become a core pathway for achieving human capital return and enhancing the quality and efficiency of the county economy in underdeveloped coastal areas of Guangdong. Shantou and Zhanjiang, as coastal sub-center cities in Guangdong, serve as core agglomeration hubs for return-to-hometown e-commerce entrepreneurship in eastern and western Guangdong, yet their entrepreneurial entities generally face vulnerability issues such as small scale, weak risk resilience, and short life cycles. Drawing on vulnerability theory, entrepreneurial process theory, and social capital theory, this paper constructs a "micro-meso-macro" three-dimensional analytical framework for the vulnerability of return-to-hometown e-commerce entrepreneurship. Based on enterprise information from the Aiqicha platform, we collected micro-level data of 1,742 e-commerce enterprises in Shantou and Zhanjiang, systematically analyzed the connotation, dimensions, and evolution logic of return-to-hometown e-commerce entrepreneurship vulnerability, empirically examined the current status and heterogeneity characteristics of entrepreneurial vulnerability in both cities, and ultimately proposed targeted governance pathways from three dimensions: subject empowerment, ecosystem optimization, and policy coordination. The research conclusions can provide theoretical references and empirical evidence for improving the support system for return-to-hometown digital entrepreneurship in underdeveloped coastal areas of Guangdong.

Keywords

Return-to-hometown e-commerce entrepreneurship; Entrepreneurial vulnerability; Evolution logic;

Governance pathway; Coastal sub-center cities in Guangdong

1. Introduction

1.1 Research Background and Significance

The comprehensive advancement of the Rural Revitalization strategy has injected core momentum into the county economy, and the deep penetration of the digital economy and e-commerce has provided a new pathway for rural areas to overcome geographical constraints and achieve industrial upgrading. The 2025 No. 1 Central Document explicitly proposed to "deeply implement the 'Digital Commerce for Agriculture' project, improve the rural e-commerce public service system, and cultivate and strengthen rural e-commerce market entities." In 2024, Guangdong Province's total online retail sales exceeded 6 trillion yuan, of which rural online retail sales surpassed 300 billion yuan, forming an e-commerce development pattern characterized by "Pearl River Delta leading, eastern, western, and northern Guangdong coordinated development." Shantou and Zhanjiang, as coastal sub-center cities in Guangdong Province, serve as the economic cores and transportation hubs of eastern and western Guangdong respectively. In recent years, a large number of migrant workers and college graduates have chosen to return to their hometowns for entrepreneurship, and e-commerce has become the preferred track due to its low entry barriers and controllable costs. By the end of 2025, Shantou had over 1,000 active e-commerce enterprises, and Zhanjiang had over 700.

However, return-to-hometown e-commerce entrepreneurial entities generally face severe survival challenges: enterprises tend to be small in scale, with low registered capital and weak risk resilience. A large number of enterprises face deregistration risks within 1-3 years of establishment, and the entrepreneurial failure rate remains persistently high. The essence of this high failure rate lies in the entrepreneurial vulnerability formed by return-to-hometown e-commerce entrepreneurial entities under the constraints of multiple factors including resource endowment, market environment, and policy support. Existing research predominantly focuses on the influencing factors and policy support for return entrepreneurship, while systematic research on the connotation, evolution logic, and governance pathways of return-to-hometown e-commerce entrepreneurship vulnerability remains insufficient, particularly lacking micro-level empirical evidence for underdeveloped coastal areas of Guangdong. The theoretical significance of this paper lies in constructing a three-dimensional analytical framework for return-to-hometown e-commerce entrepreneurship vulnerability, enriching theoretical research in the fields of return entrepreneurship and e-commerce entrepreneurship. The practical significance lies in taking Shantou and Zhanjiang as research samples to systematically analyze the current status, characteristics, and formation mechanisms of vulnerability, proposing actionable governance pathways, and providing policy references for improving the support system for return-to-hometown e-commerce entrepreneurship.

1.2 Research Content and Methods

The core research content of this paper is divided into seven parts: the introduction elaborates on the

research background, significance, methods, and innovations; Chapter 2 reviews core theories and related literature; Chapter 3 analyzes the development status and characteristics based on micro-level data of 1,742 e-commerce enterprises; Chapter 4 constructs a three-dimensional vulnerability analytical framework, identifying core dimensions and evolution logic; Chapter 5 conducts empirical measurement and heterogeneity analysis of vulnerability; Chapter 6 constructs governance pathways from three dimensions of subject empowerment, ecosystem optimization, and policy coordination; Chapter 7 summarizes research conclusions and points out limitations and prospects. In terms of research methods, this paper comprehensively employs literature review, empirical analysis, and case study methods: systematically reviewing relevant literature and theoretical achievements through databases such as CNKI, Wanfang, and Web of Science; conducting empirical analysis using descriptive statistics and comparative analysis based on micro-level data of 1,742 e-commerce enterprises in Shantou and Zhanjiang; taking Shantou and Zhanjiang as typical cases, combining macroeconomic development and e-commerce industrial policy backgrounds to deeply analyze the formation mechanisms and evolution logic of vulnerability.

1.3 Research Innovations

The innovations of this paper are reflected in three aspects. First, innovation in research perspective: starting from the perspective of vulnerability theory, this paper constructs a "micro-meso-macro" three-dimensional analytical framework for return-to-hometown e-commerce entrepreneurship vulnerability, systematically analyzing its connotation, dimensions, and evolution logic. Second, innovation in research sample: taking Shantou and Zhanjiang, two coastal sub-center cities in Guangdong, as research samples, conducting empirical analysis based on micro-level data of 1,742 e-commerce enterprises, filling the gap in related research for this region. Third, innovation in research content: this paper not only identifies the core dimensions of vulnerability but also systematically analyzes its dynamic evolution logic across different entrepreneurial stages, achieving a complete research closed loop from "static identification" to "dynamic evolution" and then to "systematic governance."

2. Theoretical Foundations and Literature Review

2.1 Core Theoretical Foundations

2.1.1 Vulnerability Theory

Vulnerability theory originated from natural disaster research in the 1970s, with its core connotation referring to the attribute of a system being susceptible to damage and difficult to recover when facing external shocks and internal disturbances. Timmerman (1981) first defined vulnerability as "the degree to which a system suffers losses in disaster events." Subsequent research has progressively refined the analytical framework of vulnerability, positing that it consists of three core dimensions: exposure, sensitivity, and adaptability. In the field of entrepreneurship research, Zhao and Long (2022) defined the vulnerability of farmers' return-to-hometown entrepreneurship as "the likelihood and extent of damage that return entrepreneurial entities face when unable to effectively respond to risk shocks during the entrepreneurial process, influenced by multiple factors including their own resource endowment and

external environment," and identified its core dimensions from micro, meso, and macro levels, providing core theoretical references for this paper.

2.1.2 Entrepreneurial Process Theory

The core proposition of entrepreneurial process theory is that entrepreneurship is a dynamic, multi-stage process (Shane & Venkataraman, 2000), and the core challenges and risk sources faced by entrepreneurial entities differ significantly across stages. Gartner (1985) proposed a four-dimensional model of the entrepreneurial process, and subsequent research has divided the entrepreneurial process into three core stages: the initial entrepreneurial stage, the entrepreneurial growth stage, and the entrepreneurial maturity stage. In the field of return-to-hometown e-commerce entrepreneurship, entrepreneurial process theory provides a core framework for analyzing the dynamic evolution logic of vulnerability: vulnerability in the initial stage primarily stems from insufficient resource endowment at the micro level; in the growth stage, it shifts to market competition and supply chain instability at the meso level; and in the maturity stage, it mainly originates from policy environment changes and technological iteration at the macro level.

2.1.3 Social Capital Theory

The core connotation of social capital theory refers to resources embedded in social relationship networks, including trust, norms, and networks, which can provide resource support and reduce transaction costs for actors (Stam et al., 2014). Bourdieu (1986) first defined social capital as "the aggregate of actual or potential resources," and subsequent research has classified it into strong-tie social capital and weak-tie social capital. In the field of return-to-hometown e-commerce entrepreneurship, social capital theory provides important support for analyzing the formation mechanisms of vulnerability (Davidsson & Honig, 2003): the strong-tie social capital of return entrepreneurs is disrupted due to long-term urban residence, while their weak-tie social capital is insufficient to acquire core resources due to inadequate industry accumulation. Insufficient social capital is one of the core causes of entrepreneurial vulnerability (Davidsson & Honig, 2003).

2.2 *Related Literature Review*

2.2.1 Research on Return-to-Hometown Entrepreneurship

Existing research on return-to-hometown entrepreneurship primarily concentrates on three aspects. First, research on influencing factors, analyzing the core factors affecting return entrepreneurship decisions from the dimensions of individuals, families, society, and policy (Aldrich & Martinez, 2001). Second, research on economic effects, which generally holds that return entrepreneurship has significant positive effects on county economic development, rural residents' income growth, and rural industrial upgrading. Third, research on policy support, proposing optimization suggestions for current issues such as difficulties in policy implementation, insufficient financial support, and incomplete service systems.

2.2.2 Research on E-commerce Entrepreneurship

Existing research on e-commerce entrepreneurship primarily concentrates on three aspects. First, research on influencing factors, analyzing the core factors affecting e-commerce entrepreneurship success from the dimensions of individuals, platforms, markets, and environments. Second, research on

models and evolution, analyzing the evolutionary process of e-commerce entrepreneurship models from traditional platform e-commerce to live-streaming e-commerce, content e-commerce, and cross-border e-commerce (Zhao, 2005). Third, research on rural e-commerce entrepreneurship, focusing on the influencing factors, development models, and policy support for rural e-commerce entrepreneurship (Kshetri, 2007).

2.2.3 Research on Entrepreneurial Vulnerability

Existing research on entrepreneurial vulnerability primarily concentrates on three aspects. First, research on connotation and dimension identification, identifying the core dimensions of entrepreneurial vulnerability from micro, meso, and macro levels. Second, research on formation mechanisms, arguing that entrepreneurial vulnerability is the result of the joint action of internal and external factors, and that the "liability of newness" of new ventures (Stinchcombe, 1965; Brüderl & Schüssler, 1990) is the core cause of vulnerability. Third, research on mitigation and governance, proposing countermeasures from the dimensions of entrepreneurs, enterprises, and government (Wiklund & Shepherd, 2005).

2.2.4 Literature Summary

Existing research has achieved rich results, but deficiencies remain. First, in terms of research perspective, systematic research on return-to-hometown e-commerce entrepreneurship vulnerability is insufficient, lacking systematic analysis of its connotation, dimensions, and evolution logic from the perspective of vulnerability theory. Second, in terms of research samples, micro-level empirical research on underdeveloped coastal areas of Guangdong is scarce, particularly lacking large-sample studies on coastal sub-center cities such as Shantou and Zhanjiang. Third, in terms of research content, research on the dynamic evolution logic of entrepreneurial vulnerability across different entrepreneurial stages is insufficient, and research on full-cycle, systematic governance pathways is also relatively scarce. Based on the above deficiencies, this paper takes Shantou and Zhanjiang as research samples, based on micro-level data of 1,742 e-commerce enterprises, systematically analyzes the connotation, dimensions, and evolution logic of vulnerability, and proposes targeted governance pathways.

3. Development Status and Characteristics of Return-to-Hometown E-commerce Entrepreneurship in Coastal Sub-center Cities of Guangdong

3.1 Overview of the Research Area

Shantou and Zhanjiang are coastal sub-center cities designated by Guangdong Province, serving as the economic cores and transportation hubs of eastern and western Guangdong respectively, while also being traditional agricultural centers and major population outflow cities. In 2025, Shantou achieved a regional GDP of 302.383 billion yuan, with the proportions of the three industries being 4.7:37.6:57.7; Zhanjiang achieved a regional GDP of 395.294 billion yuan, with the proportions of the three industries being 18.6:32.6:48.8. The economic development levels of both cities are lower than those of core cities in the Pearl River Delta, and county economic development is relatively lagging. In terms of e-commerce industry development, Zhanjiang's online retail sales exceeded 10 billion yuan for the first time in 2023,

reaching 11.8 billion yuan, a year-on-year increase of 25.4%; Shantou's total online retail sales in 2024 exceeded 8 billion yuan, of which rural online retail sales exceeded 3 billion yuan.

3.2 Overall Scale and Operating Status

Table 1. Distribution of Operating Status of E-commerce Enterprises in Shantou and Zhanjiang

Operating Status	Shantou (No.)	Proportion (%)	Zhanjiang (No.)	Proportion (%)
Active	800	77.75	537	75.32
Deregistered	219	21.28	175	24.54
Revoked	10	0.97	1	0.14

The data in this paper are sourced from Aiqicha. As of June 2026, Shantou had a total of 1,029 e-commerce enterprises including active, deregistered, and revoked ones, and Zhanjiang had 713, totaling 1,742 in both cities. In terms of operating status, the opening rates of e-commerce enterprises in both cities are above 75%, with Shantou's opening rate at 77.75%, slightly higher than Zhanjiang's 75.32%; the deregistration rates are both above 20%, with Zhanjiang's deregistration rate at 24.54%, higher than Shantou's 21.28%, reflecting the generally high vulnerability of entrepreneurial entities.

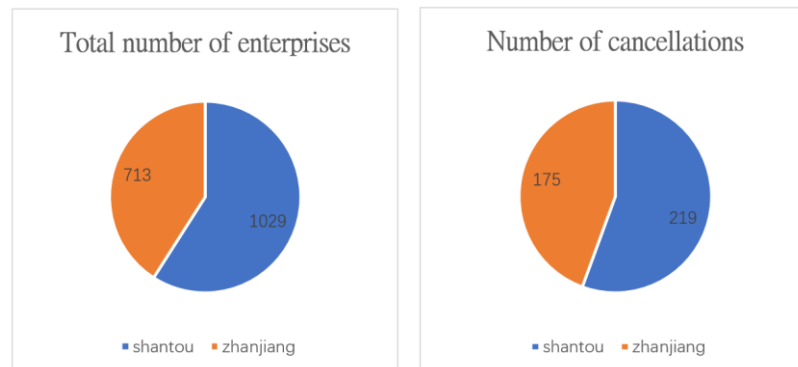


Figure 1. Total Number and Deregistered Number of E-commerce Enterprises in Shantou and Zhanjiang

3.3 Development and Evolution Trends

In terms of establishment time, the establishment of e-commerce enterprises in both cities exhibits significant stage characteristics: in the initial stage (2000-2015), a total of 46 enterprises were established in both cities, accounting for 2.64%; in the growth stage (2016-2020), a total of 173 enterprises were established, accounting for 9.93%; in the outbreak stage (2021-2025), a total of 1,523 enterprises were established, accounting for 87.43%. Since 2021, driven by the "Digital Commerce for Agriculture" strategy, return-to-hometown e-commerce entrepreneurship has experienced explosive growth, but the rapidly increasing number of entrepreneurial entities has also brought intense market competition, further

exacerbating vulnerability.

Table 2. Number of E-commerce Enterprises Established by Stage in Shantou and Zhanjiang

Establishment Stage	Shantou (No.)	Proportion (%)	Zhanjiang (No.)	Proportion (%)
2000-2015	34	3.30	12	1.68
2016-2020	108	10.50	65	9.12
2021-2025	887	86.20	636	89.20

3.4 Entity Characteristics Analysis

In terms of registered capital, the registered capital of e-commerce enterprises in both cities is highly concentrated at 1 million yuan and below, with Shantou accounting for 89.22% and Zhanjiang for 88.79%, and the average registered capital of both cities is less than 500,000 yuan. In terms of paid-in capital, only 12.35% of enterprises in Shantou and 10.68% in Zhanjiang have paid-in capital, with over 85% of enterprises using the subscribed capital system, indicating weak financial chain risk resilience. In terms of social insurance participants, over 94% of enterprises in both cities have 10 or fewer insured employees, and the vast majority are individual commercial households or family workshop-style operations. In terms of enterprise type, individual commercial households account for the highest proportion, reaching 51.90% in Shantou and 42.64% in Zhanjiang. In terms of industry distribution, e-commerce enterprises in both cities are highly concentrated in the retail industry, with Shantou at 68.32% and Zhanjiang at 72.15%, indicating highly homogeneous entrepreneurial tracks.

Table 3. Distribution of Registered Capital of E-commerce Enterprises in Shantou and Zhanjiang

Registered Capital (10,000 CNY)	Shantou (No.)	Proportion (%)	Zhanjiang (No.)	Proportion (%)
<10	694	67.44	471	66.06
10-50	121	11.76	95	13.32
50-100	61	5.93	32	4.49
100-500	125	12.15	66	9.26

Table 4. Distribution of Social Insurance Participants of E-commerce Enterprises in Shantou and Zhanjiang

No. of Insured	Shantou (No.)	Proportion (%)	Zhanjiang (No.)	Proportion (%)
0	933	90.67	679	95.23
1	85	8.26	27	3.79
2-5	7	0.68	2	0.28
6-10	3	0.29	3	0.42

3.5 Regional Distribution Characteristics

The regional distribution of e-commerce enterprises in both cities exhibits significant central urban area agglomeration characteristics: Among Shantou City, the four districts and counties of Chaoyang, Chaonan, Longhe and Chenghai account for 94% of the total number of enterprises; in Zhanjiang, the four districts of Chikan, Wuchuan, Lianjiang, and Xiashan collectively account for 74.05%. Economically underdeveloped districts and counties each account for less than 5% of e-commerce enterprises, indicating extremely uneven regional development. The high concentration of entrepreneurial entities in central urban areas brings intense competition, while entrepreneurial entities in rural areas face challenges such as inadequate infrastructure and high logistics costs.

3.6 Chapter Summary

Based on micro-level data of 1,742 e-commerce enterprises, this chapter systematically analyzes the development status of return-to-hometown e-commerce entrepreneurship in coastal sub-center cities of Guangdong. The main conclusions are as follows: both cities have formed a certain industrial scale, but deregistration rates are above 20%, and the entrepreneurial failure rate remains persistently high; the establishment time of enterprises is mainly concentrated after 2021, showing explosive growth; the micro-level characteristics of entrepreneurial entities show significant "small, scattered, and weak" features — small registered capital scale, insufficient paid-in capital, extremely small enterprise scale, predominantly individual commercial households, and highly homogeneous industries; the regional distribution shows central urban area agglomeration characteristics, with extremely uneven regional development.

4. Multi-dimensional Identification of Return-to-Hometown E-commerce Entrepreneurship Vulnerability: Commonalities and Regional Differences

Combining the industrial and commercial data and development status of both cities, based on five vulnerability dimensions, this chapter first extracts the common vulnerability characteristics of return-to-hometown e-commerce in coastal sub-center cities of Guangdong, then compares the regional differentiation performance of the two cities, and analyzes the causes of differentiation.

4.1 Survival Vulnerability: Survival Crisis under High Elimination Rates

4.1.1 Common Characteristics

Both cities exhibit the characteristic of "easy to start, difficult to survive," with deregistration rates both exceeding 20%. The core causes are consistent: first, low industry entry barriers lead to an influx of zero-experience entrepreneurs and excessive market competition; second, return entrepreneurs generally lack systematic operational capabilities, making it difficult to cope with platform rules and market fluctuations; third, micro and small entities have no scale advantages, with high procurement and logistics costs squeezing profit margins. Survival vulnerability is the most palpable risk of return-to-hometown e-commerce in both cities.

4.1.2 Regional Differences

Shantou's deregistration rate is 21.28%, with relatively better operational stability. The reason is that Shantou has mature light industry industrial clusters, and e-commerce can rely on local supply sources to reduce costs. The commercial atmosphere of the overseas Chinese hometown also provides entrepreneurs with more experience and channels. Zhanjiang's deregistration rate reaches 24.54%, indicating greater survival pressure. On one hand, the county-level layout is dispersed with weak industrial synergy; on the other hand, fresh aquatic product e-commerce has high requirements for cold chain and warehousing, and start-up enterprises find it difficult to bear the supporting costs, accelerating enterprise exits.

4.1.3 Kaplan-Meier Survival Analysis

To further quantify the survival risk of return-to-hometown e-commerce enterprises, this paper adopts the Kaplan-Meier survival function analysis method, using the enterprise establishment time as the time variable and enterprise deregistration as the event occurrence indicator, plotting the survival function curves of e-commerce enterprises in both cities. The Kaplan-Meier estimator is a non-parametric method that does not require preset distribution forms for survival time and is suitable for characterizing the dynamic changes in enterprise survival probability over time. Its core statistic $S(t)$ represents the probability that an enterprise remains in an active state at time t .

4.2 Capital Vulnerability: Funding Scarcity and Financing Constraints

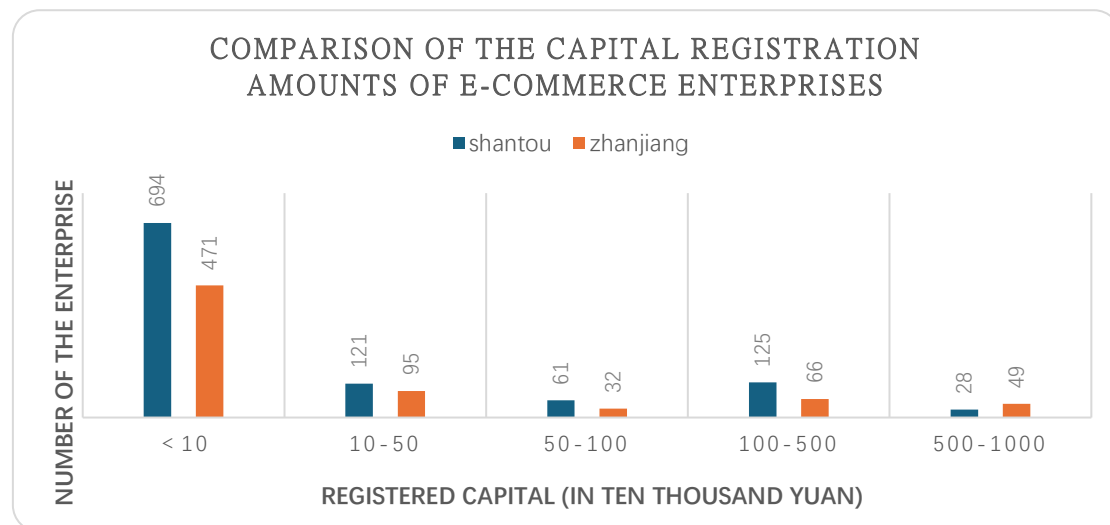


Figure 2. Comparison of Registered Capital Distribution of E-commerce Enterprises in Shantou and Zhanjiang

4.2.1 Common Characteristics

The capital vulnerability performance in both cities is highly consistent: over 60% of enterprises have registered capital below 100,000 yuan, and over 90% of enterprises have no paid-in capital. Return entrepreneurs primarily rely on personal savings as their main funding source, lacking collateral and

stable operating cash flow, making it difficult to obtain bank loans; informal financing carries high costs and risks, and enterprises are trapped in a "small capital circulation" for extended periods, unable to make upgrading investments in inventory, branding, and promotion. The capital shortfall has become the core obstacle to transformation and upgrading.

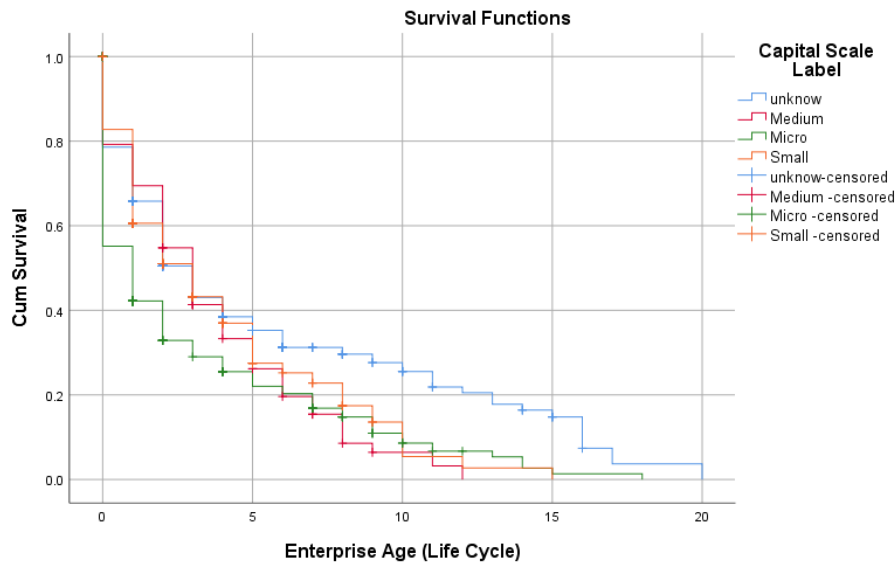


Figure 3. Kaplan-Meier Survival Analysis of Registered Capital of E-commerce Enterprises in Shantou and Zhanjiang

4.2.2 Regional Differences

Zhanjiang's average registered capital (591,000 CNY) is higher than Shantou's (390,900 CNY), with a higher proportion of medium and large enterprises, and the capital strength of top-tier entities is slightly stronger; however, Zhanjiang's zero paid-in capital ratio (93.83%) is higher, and the funding gap problem for bottom-tier micro and small enterprises is more prominent. Shantou has a larger number of small and medium-sized enterprises, and overall capital activity is superior to Zhanjiang.

4.3 Human Capital Vulnerability: Comprehensive Shortage of Professional Talent

4.3.1 Common Characteristics

The human capital vulnerability problem in both cities is extremely prominent: over 90% of enterprises have no formally insured employees, and the operating model is predominantly single-person or family workshop style. There is a comprehensive shortage of professional talent in graphic design, live-streaming, customer service, supply chain management, and data analysis. The stock of talent in county areas is insufficient, and the limited salary and career development space of micro and small enterprises make it difficult to attract and retain talent. Most enterprises remain in the traditional graphic-based product promotion model, unable to adapt to mainstream new business formats such as live-streaming and cross-border e-commerce.

4.3.2 Regional Differences

In Shantou, the proportion of enterprises with zero insured employees is 90.67%, with more enterprises having insured employees and single-person operations; some micro and small enterprises have begun to attempt small-scale team-based operations, and the talent shortfall has been slightly alleviated. In Zhanjiang, the zero-insurance proportion reaches 95.23%, with the vast majority operating in a solo mode, and the talent gap is larger. Shantou's central urban areas and industrial counties have linkages, with more frequent talent mobility; Zhanjiang's county areas are more remote, making it more difficult for talent to reach grassroots levels.

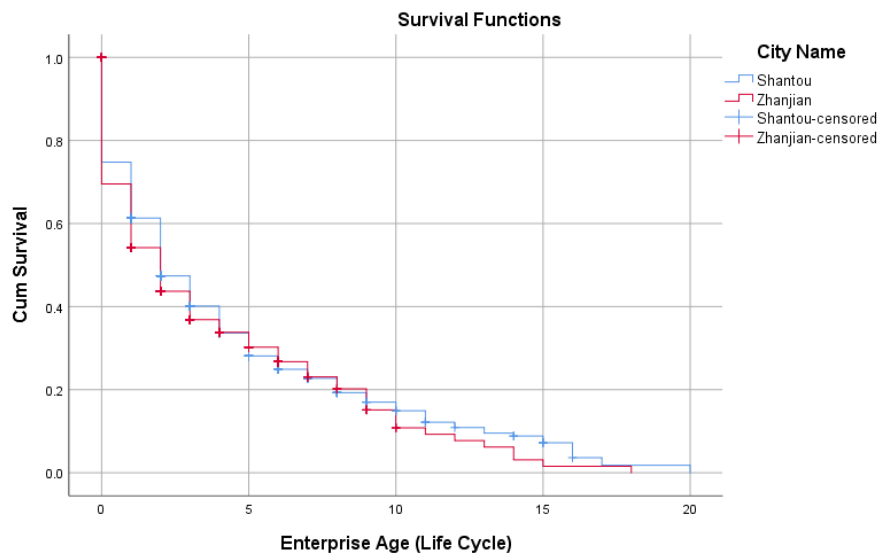


Figure 4. Kaplan-Meier Survival Analysis of Social Insurance Differences in E-commerce Enterprises in Shantou and Zhanjiang

4.4 Structural Vulnerability: Homogenization and Insufficient Agglomeration

4.4.1 Common Characteristics

The structural vulnerability in both cities encompasses three common issues. First, business format homogenization: most enterprises cluster in general merchandise categories such as daily necessities and apparel, with severe low-price involution. Second, spatial dispersion: enterprise layouts are scattered, industrial cluster effects are insufficient, and supply chain and logistics cannot achieve collaborative cost reduction. Third, organizational simplicity: natural person sole proprietorship accounts for the absolute majority, lacking partnerships, corporate entities, and leading enterprise driving forces, with weak industrial chain integration capabilities.

4.4.2 Regional Differences

Business format differences: Shantou deeply cultivates local light industry retail such as toys and textiles, with a high degree of retail format clustering, and homogenization is mainly concentrated in general merchandise; Zhanjiang focuses on wholesale and cross-border trade, but the scale of specialty aquatic

products and agricultural product e-commerce is limited, and the wholesale format also has category overlap issues. Spatial differences: Shantou's county areas form linked clusters based on industries, and structural shortcomings are relatively mitigated; Zhanjiang's district and county layouts are fragmented, with insufficient physical carriers, making structural vulnerability more severe.

4.5 Environmental Vulnerability: Lagging Infrastructure and Supporting Facilities

4.5.1 Common Characteristics

The external environmental shortcomings of both cities are highly overlapping. First, the supply of physical office and warehousing space is insufficient, with a large number of enterprises using virtual addresses. Second, the three-tier logistics costs at the county, township, and village levels are high, with insufficient end-efficiency. Third, public services such as e-commerce training, policy consultation, and legal services are fragmented, with limited coverage. Fourth, local support policies emphasize "registration increment" over "stock cultivation," with insufficient long-term assistance for start-up enterprises.

4.5.2 Regional Differences

Shantou relies on mature commerce and industrial parks, with relatively complete basic facilities and general logistics support, and environmental shortcomings are mainly reflected in insufficient public services; Zhanjiang, affected by remote county areas and fresh product business formats, has prominent gaps in cold chain warehousing and cross-border customs clearance, more virtual registration enterprises, and the overall business environment's support capacity for start-up enterprises is weaker than Shantou's.

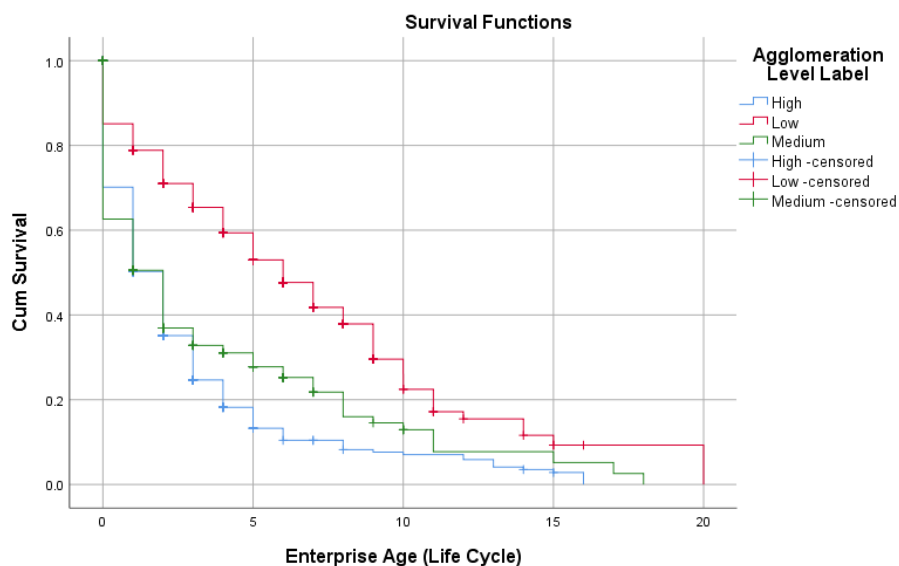


Figure 5. Kaplan-Meier Survival Analysis of Return-to-Hometown E-commerce Industrial Agglomeration in Shantou and Zhanjiang

4.6 Comprehensive Comparison Summary of Vulnerability

Overall, Shantou and Zhanjiang's return-to-hometown e-commerce exhibits five common vulnerability

dimensions, which are universal problems for micro and small return-to-hometown e-commerce in coastal sub-center cities of Guangdong. Regional differences stem from city endowments: Shantou, leveraging its overseas Chinese hometown, light industry, and mature commerce, performs better in the survival, human capital, structural, and environmental dimensions; Zhanjiang relies on port proximity and agricultural resources to form differentiated business formats, but supporting shortcomings exacerbate various types of vulnerability, making overall risk higher.

5. Evolution Logic of Return-to-Hometown E-commerce Entrepreneurship Vulnerability: Overall Patterns and Regional Differentiation

The vulnerability of return-to-hometown e-commerce in Shantou and Zhanjiang is not a static problem but dynamically evolves with industrial expansion. This chapter first extracts the unified three-stage evolution pattern of both cities, then analyzes the regional differentiation characteristics of each stage in combination with city endowments, and finally analyzes the dual driving mechanism of evolution.

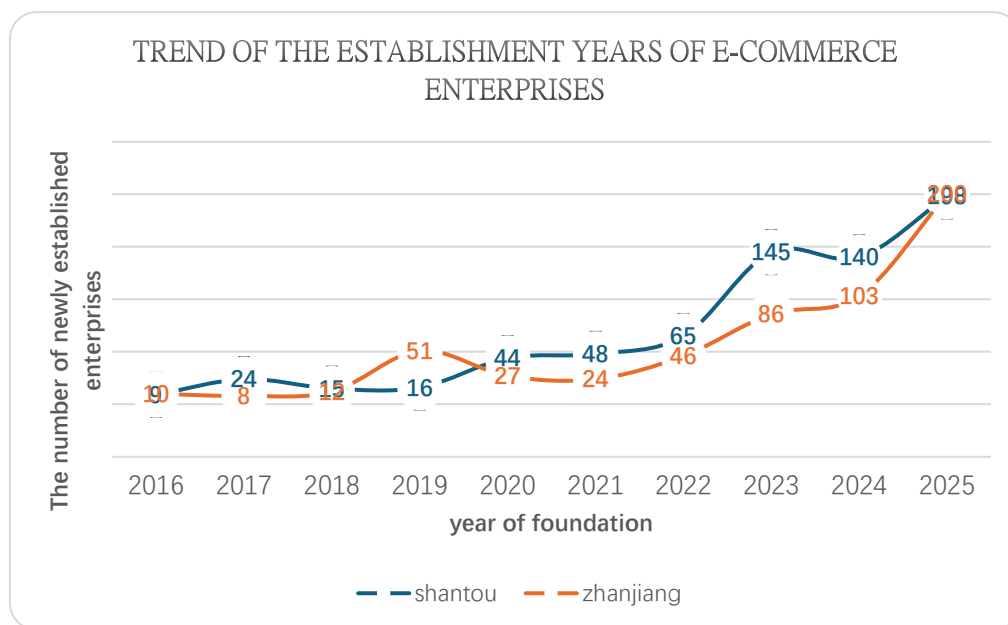


Figure 6. Three-Stage Evolution Logic Framework of Return-to-Hometown E-commerce Entrepreneurship Vulnerability

5.1 Overall Evolution Framework

Based on industry life cycle theory, combined with the establishment time and development rhythm of enterprises in both cities, a unified evolution model is determined: the embryonic stage (before 2023), the outbreak stage (2023-2025), and the differentiation stage (current period). Across the three stages, the manifestation forms, impact scope, and transmission logic of vulnerability gradually change; endogenous entity shortcomings and external environmental disturbances are the two core driving forces of evolution.

5.2 Common Patterns and Regional Differences of Stage-Specific Evolution

5.2.1 Embryonic Stage (Before 2023): Endogenous Vulnerability Dominance

Common characteristics: The number of e-commerce enterprises in both cities was at a low level, and return-to-hometown e-commerce was a niche choice. Entrants were mostly local personnel with basic e-commerce experience, and vulnerability was primarily endogenous, mainly manifested as individual shortcomings such as insufficient entrepreneur funds and single-person operations. At this time, risks existed only at the individual enterprise level and had not formed industry-level risks, and the industry as a whole was slowly developing.

Regional differences: Shantou, relying on its commercial foundation, had more enterprises in the embryonic stage than Zhanjiang, and a small number of small teams began to emerge, with endogenous vulnerability relatively mitigated; Zhanjiang's embryonic stage enterprises were smaller in scale, with more pronounced individual characteristics, and endogenous vulnerability was more prominent.

5.2.2 Outbreak Stage (2023-2025): Superimposed Amplification of Vulnerability

Common characteristics: Driven by the triple forces of policy, live-streaming e-commerce, and the return migration wave, the number of enterprises in both cities surged simultaneously. The number of newly added enterprises in three years approached or exceeded half of the total, with a large number of zero-experience entrepreneurs entering the market concurrently. The original endogenous shortcomings of capital and human resources remained unresolved, while new problems such as business format homogenization and market involution were superimposed, transforming individual risks into industry-wide common risks, and the overall industry risk accumulated rapidly.

Regional differences: Shantou's outbreak stage started earlier, with steadily growing new enterprise volumes, and retail format involution was the main issue; Zhanjiang's growth rate surged in 2024-2025, with homogenization competition also appearing in the wholesale and cross-border sectors, superimposed with cold chain shortcomings, leading to faster vulnerability amplification.

5.2.3 Differentiation Stage (Current Period): Concentrated Outbreak of Deep Vulnerability

Common characteristics: Both cities have entered the survival-of-the-fittest stage, with continuously increasing deregistered enterprises and market polarization: a small number of high-quality micro and small enterprises survive and slightly expand, while the vast majority of start-up entities fall into operational difficulties. The previously accumulated survival, capital, human capital, and structural vulnerabilities fully erupt, while macro-level environmental shortcomings such as infrastructure and public services are completely exposed. "Easy to start, difficult to survive, difficult to upgrade" has become the common industry dilemma in both cities.

Regional differences: Shantou's polarization is relatively mild, with some retail enterprises relying on local supply sources establishing market positions; Zhanjiang's elimination intensity is greater, with a large number of fresh product and wholesale enterprises exiting due to insufficient supporting facilities, and the impact of deep vulnerability is more intense.

5.3 Dual Driving Mechanism of Vulnerability Evolution

5.3.1 Endogenous Driving Force (Root Factors)

Endogenous driving forces are the core root causes of vulnerability, and they are highly consistent across both cities: return entrepreneurs generally have limited funds, insufficient professional skills and management experience, and enterprises are predominantly natural person sole proprietorships with single-person operations, inherently weak in risk resilience. This inherent shortfall determines that vulnerability exists from the very beginning and serves as the foundational basis for evolution.

5.3.2 Exogenous Driving Force (Catalytic Factors)

Exogenous driving forces are the key to vulnerability amplification and differentiation, divided into common external factors and regionally heterogeneous factors.

Common external factors: National-level "Digital Commerce for Agriculture" and return entrepreneurship policies, live-streaming e-commerce traffic dividends, driving both cities into the outbreak stage simultaneously; general logistics shortcomings, industry regulatory rules, and market competition environments jointly amplify industry risks.

Regionally heterogeneous factors: Shantou's overseas Chinese resources, light industry industrial clusters, and mature commercial environment serve as risk buffers; Zhanjiang's dispersed county-level layout, cold chain gaps, and insufficient cross-border support further exacerbate risks.

5.3.3 Comprehensive Logic Summary

The vulnerability evolution of return-to-hometown e-commerce in both cities follows a unified logic: endogenous shortcomings are the root causes, and the external environment is the catalyst. The homogeneous external environment keeps the evolution stages and overall trends of both cities consistent; while the heterogeneous environment brought by city endowments causes regional differentiation in vulnerability manifestation and risk levels.

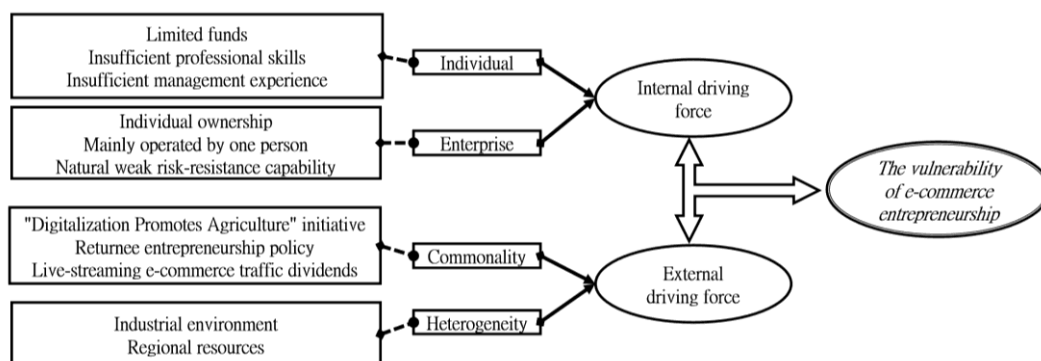


Figure 7. Dual Driving Mechanism of Vulnerability Evolution in Return-to-Hometown Digital Entrepreneurship

6. Governance Pathways for Return-to-Hometown E-commerce Entrepreneurship Vulnerability

Based on the theoretical analysis, empirical examination, and evolution logic analysis in the preceding

chapters, this chapter constructs a full-cycle, systematic governance pathway for return-to-hometown e-commerce entrepreneurship vulnerability from three dimensions: subject empowerment, ecosystem optimization, and policy coordination. The three dimensions correspond respectively to the micro, meso, and macro sources of vulnerability. The subject empowerment dimension focuses on mitigating micro-level resource endowment vulnerability by constructing a full-cycle entrepreneurial cultivation system, building diversified resource docking platforms, and improving diversified financial support systems to strengthen the core capabilities of entrepreneurial entities. The ecosystem optimization dimension focuses on mitigating meso-level operational and market vulnerability by improving e-commerce entrepreneurial supporting infrastructure, optimizing the market competition environment, and improving the supply chain support system to enhance entrepreneurial ecosystem support conditions. The policy coordination dimension focuses on mitigating macro-level environmental vulnerability by improving full-cycle entrepreneurial support policies, strengthening policy coordination and implementation, and optimizing the regional development environment to build a full-cycle policy support system. The three dimensions are mutually coordinated and supportive, forming a "subject-ecosystem-policy" trinity systematic governance system. The specific governance pathways, core measures, and expected outcomes are shown in Table 6.

Table 6. Summary of Governance Pathways for Return-to-Hometown E-commerce Entrepreneurship Vulnerability

Governance Dimension	Corresponding Vulnerability Source	Core Measures	Expected Outcomes
Subject Empowerment (Micro Dimension)	Human capital vulnerability	Construct a "pre-entrepreneurship, during-entrepreneurship, post-entrepreneurship" full-cycle cultivation system; conduct e-commerce skills training and advanced training	Enhance entrepreneurs' digital skills and operational capabilities; mitigate human capital shortcomings
	Social capital vulnerability	Build three types of docking platforms: local social networks, industry resources, and entrepreneurial mentors	Expand entrepreneurs' social networks; enhance resource acquisition capabilities
	Financial resource vulnerability	Develop credit loan products such as "e-commerce entrepreneurship loans"; establish entrepreneurial guarantee funds; provide financial guidance	Broaden financing channels; lower financing thresholds; improve financial management capabilities

	Operational capability vulnerability	Improve digital infrastructure and logistics distribution systems; construct e-commerce entrepreneurial parks and live-streaming bases	Reduce operating costs; improve operational efficiency
Ecosystem Optimization (Meso Dimension)	Competitive environment vulnerability	Guide differentiated development; regulate market order; promote brand development	Mitigate homogenization competition; cultivate differentiated competitive advantages
	Supply chain vulnerability	Build supply chain docking platforms; enhance supply chain management capabilities; improve risk guarantee systems	Enhance supply chain stability; reduce chain disruption risks
	Policy environment vulnerability	Construct a "start-up, growth, maturity" full-cycle support policy system	Achieve full-cycle policy coverage; reduce institutional transaction costs
Policy Coordination (Macro Dimension)	Economic environment vulnerability	Establish multi-department coordination mechanisms; simplify policy application processes; strengthen policy publicity	Improve policy implementation efficiency; bridge the policy "last mile"
	Infrastructure vulnerability	Increase policy inclination for rural areas; improve supporting infrastructure; cultivate distinctive industries	Narrow regional development gaps; improve rural entrepreneurial environments

The above three governance dimensions form a systematic governance closed loop of "subject empowerment — ecosystem optimization — policy coordination": subject empowerment strengthens the endogenous capabilities of entrepreneurs at the micro level, serving as the foundation of governance; ecosystem optimization improves the external support conditions for entrepreneurship at the meso level, serving as the key to governance; policy coordination constructs the institutional guarantee system at the macro level, serving as the safeguard of governance. The three are mutually coordinated and progressively layered, jointly constituting the full-cycle governance system for return-to-hometown e-commerce entrepreneurship vulnerability.

7. Conclusions and Prospects

7.1 Research Conclusions

Taking Shantou and Zhanjiang, two coastal sub-center cities in Guangdong, as research samples, and based on micro-level data of 1,742 e-commerce enterprises, this paper systematically analyzes the connotation, dimensions, and evolution logic of return-to-hometown e-commerce entrepreneurship vulnerability, empirically examines the current status and heterogeneity characteristics of vulnerability, and constructs full-cycle governance pathways. The main conclusions are as follows:

First, return-to-hometown e-commerce entrepreneurship in both cities has formed a certain industrial scale, but entrepreneurial entities generally face high vulnerability. Deregistration rates are both above 20%, and the micro-level characteristics of entrepreneurial entities show "small, scattered, and weak" features — small registered capital scale, insufficient paid-in capital, extremely small enterprise scale, highly homogeneous industries, and extremely uneven regional distribution.

Second, return-to-hometown e-commerce entrepreneurship vulnerability consists of three dimensions: micro, meso, and macro. The micro dimension is the resource endowment vulnerability of entrepreneurial entities (human capital, social capital, financial resources), which is the core endogenous source; the meso dimension is the enterprise operational and market environment vulnerability (operational capability, competitive environment, supply chain stability), which is the core transmission source; the macro dimension is the policy institutional and environmental vulnerability (policy environment, economic environment, infrastructure), which is the core exogenous source.

Third, vulnerability exhibits dynamic evolution characteristics as the entrepreneurial process advances: in the initial stage, micro-dimensional vulnerability is central, representing the formation and accumulation phase; in the growth stage, meso-dimensional vulnerability is central, representing the manifestation and amplification phase; in the maturity stage, macro-dimensional vulnerability is central, representing the consolidation and transformation phase, with vulnerability transitioning from "operational type" to "structural type." The empirical results fully validate this evolution logic.

Fourth, the average comprehensive vulnerability score of e-commerce enterprises in both cities is 40.44, with 60.62% of enterprises in the medium-high and above vulnerability range. Enterprise scale and establishment time are both significantly negatively correlated with vulnerability (Audretsch, 1995), and Zhanjiang's comprehensive vulnerability is higher than Shantou's. Mitigating vulnerability requires constructing systematic governance pathways from the three dimensions of subject empowerment, ecosystem optimization, and policy coordination.

7.2 Research Limitations and Prospects

This paper still has the following limitations. First, the research sample is limited to Shantou and Zhanjiang, and the regional adaptability of the conclusions has limitations; future research can expand the sample scope for further verification. Second, some indicators use proxy measures, and precision is limited; future research can obtain more precise micro-level data through questionnaire surveys and field interviews. Third, the empirical examination of evolution logic lacks long-term panel data tracking

analysis; future research can deepen the examination through follow-up surveys. Fourth, the governance pathways are still at the theoretical construction stage, lacking effectiveness testing; future research can conduct empirical testing and optimization through case analysis and policy pilots.

Acknowledgement

This paper was supported by Foundation for Guangdong Philosophy and Social Science Planning Discipline co-construction project (GD24XYJ37) and Zhanjiang City philosophy and social science project (ZJ25YB25).

References

- Aldrich, H. E., & Martinez, M. A. (2001). Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship. *Entrepreneurship Theory and Practice*, 25(4), 41-56. <https://doi.org/10.1177/104225870102500404>
- Audretsch, D. B. (1995). Innovation, growth and survival. *International Journal of Industrial Organization*, 13(4), 441-457. [https://doi.org/10.1016/0167-7187\(95\)00499-8](https://doi.org/10.1016/0167-7187(95)00499-8)
- Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood.
- Brüderl, J., & Schüssler, R. (1990). Organizational mortality: The liabilities of newness and adolescence. *Administrative Science Quarterly*, 35(3), 530-547. <https://doi.org/10.2307/2393316>
- Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301-331. [https://doi.org/10.1016/S0883-9026\(02\)00097-6](https://doi.org/10.1016/S0883-9026(02)00097-6)
- Gartner, W. B. (1985). A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management Review*, 10(4), 696-706. <https://doi.org/10.2307/258039>
- Kshetri, N. (2007). Barriers to e-commerce and competitive business models in developing countries: A case study. *Journal of Electronic Commerce Research*, 8(2), 111-130. <https://doi.org/10.1016/j.elerap.2007.02.004>
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226. <https://doi.org/10.5465/amr.2000.2791611>
- Stam, W., Arzlanian, S., & Elfring, T. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing*, 29(1), 152-173. <https://doi.org/10.1016/j.jbusvent.2013.01.002>
- Stinchcombe, A. L. (1965). Social structure and organizations. In J. G. March (Ed.), *Handbook of organizations* (pp. 142-193). Chicago: Rand McNally.
- Timmerman, P. (1981). *Vulnerability, resilience and the collapse of society: A review of models and possible climatic applications*. Toronto: Institute for Environmental Studies, University of Toronto.
- Wang, Y., Hu, Z., & Gao, D. (2025). From capital returns to sustainable dilemmas: A dynamic examination of college students' return-to-hometown e-commerce entrepreneurship under the

- "Digital Commerce for Agriculture" background. *E-Commerce Review*, 14(6), 1-12.
<https://doi.org/10.12677/ecl.2025.1472474>
- Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing*, 20(1), 71-91.
<https://doi.org/10.1016/j.jbusvent.2004.01.001>
- Zhang, X. (2025). Research on social support mechanisms for rural youth return-to-hometown entrepreneurship under the background of live-streaming e-commerce: An analysis based on the social work perspective. *E-Commerce Review*, 14(8), 2381-2388.
<https://doi.org/10.12677/ecl.2025.1482790>
- Zhao, F. (2005). Exploring the synergy between entrepreneurship and innovation. *International Journal of Entrepreneurial Behavior & Research*, 11(1), 25-41.
<https://doi.org/10.1108/13552550510580825>
- Zhao, L., & Long, H. (2022). Connotation definition and dimension identification of farmers' return-to-hometown entrepreneurship vulnerability. *Journal of Xihua University (Philosophy and Social Sciences)*, 41(5), 15-24.