

# ***The Influence of Urban-Rural Integration on Rural Entrepreneurship and Employment is Analyzed Based on the Perspective of Flow Space***

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**Abstract:** Against the backdrop of actively promoting the rural revitalization strategy and urban-rural integration, Guangdong Province has launched a forward-looking "Internet Plus" rural e-commerce entrepreneurship project, aiming to unleash the tremendous potential of the rural economy and further narrow the urban-rural development gap. This study, based on the theory of space of flows, has conducted a detailed analysis of the implementation strategy of the project and its role in promoting urban-rural integration. Through in-depth analysis, this paper found that the project has effectively broken through geographical restrictions by precisely utilizing internet technologies, greatly promoting information exchange and resource sharing between urban and rural areas. However, the project has also encountered challenges such as inadequate infrastructure, a relatively weak rural entrepreneurial atmosphere, and a lack of entrepreneurial awareness. Therefore, the government should further increase policy support, improve the infrastructure network, and strengthen rural entrepreneurship training to ensure the sustainable and healthy progress of the project, injecting new vitality into urban-rural integration.

**Keywords:** Flow space, urban-rural integration, rural e-commerce, rural revitalization, Guangdong province

## **1. Introduction**

In recent years, urban-rural integration and rural revitalization have consistently remained significant topics of discussion. There exists a close connection between the two, with each complementing the other. Urban-rural integration, which aims to bridge the disparities in economic development, infrastructure, and public services between urban and rural areas, encompasses coordinated development and harmonious cooperation between these two regions. By facilitating the flow of production factors, knowledge, and innovation between urban and rural regions, urban-rural integration endeavors to overcome institutional barriers and address disparities in resource allocation and policy support between urban and rural areas.

Rural entrepreneurship has emerged as a catalyst for promoting rural revitalization and economic transformation. The development of the rural economy holds paramount significance, not only influencing the living standards of rural residents but also contributing to the nation's economic growth, social stability, and ecological environment preservation. Thus, enhancing rural economic

development and fostering the upgrading and innovative development of rural industries are crucial measures for realizing the objectives of the rural revitalization strategy.

The rapid advancement of the Internet has injected new vitality into rural entrepreneurship. The application of Internet technology has brought forth new opportunities and possibilities for rural entrepreneurship, profoundly transforming and upgrading traditional rural industries, while also breaking down conventional barriers to provide rural entrepreneurs with broader markets and more convenient entrepreneurial environments.

Guangdong's rural entrepreneurship project harnesses internet technology to drive rural economic development. By leveraging digital agricultural technology, it has enhanced the production efficiency and quality of agricultural products. Additionally, the project has established e-commerce platforms and online agricultural supermarkets to expand the sales channels of agricultural products, facilitating their rapid promotion and sales for farmers. Furthermore, it has established maker spaces and entrepreneurial incubation bases, providing entrepreneurship training, technical support, and resource-sharing platforms for rural entrepreneurs. Through policy support and financial assistance, it has further lowered the barriers to entrepreneurship, promoting the transformation and upgrading of the rural economy and ensuring its sustainable development.

The concept of "flow space," initially proposed by Castells, characterizes space as dynamic and mobile. It underscores that space is no longer static and fixed but a continuously flowing, changing, and interconnected network [1]. Within the theoretical framework of flow space, space is perceived as a dynamic system comprising elements such as people, goods, information, and capital. These elements are interconnected through various flow paths, transcending traditional geographical boundaries and forming an integrated flow network [2].

In the context of urban-rural integration and rural internet entrepreneurship development, the concept of flow space offers insights into the connection and interaction between cities and rural areas, fostering cooperation and development between regions. It also provides new perspectives and methodologies for planning and managing urban-rural transportation, logistics, and information flow. The concept of flow space transcends the limitations of traditional spatial constructs, augmenting spatial dynamism and complexity, thereby offering novel perspectives and approaches to comprehend and address the challenges faced by contemporary urban-rural development.

Flow space can further be defined as enabling elements such as information, capital, population, and activities to flow faster, more conveniently, and at lower costs within material and social organizations. The essence lies not in the "mobility" itself but in achieving "faster, more convenient, and lower cost" mobility. For example, financial capital flows faster with the support of financial institutions and information technology, industrial capital flows faster with institutional and modern transportation networks, and innovative knowledge flows faster with the support of information technology [3].

Drawing from the example of the Guangdong Internet+ rural entrepreneurship project, this research aims to analyze the impact of flow space on rural entrepreneurship development within the context of urban-rural integration. A flow space perspective enables a deeper understanding of urban-rural relationships and information flow, comprehensively capturing the flow paths and mechanisms of information, personnel, capital, and other resources between cities and rural areas. It accurately evaluates the position and role of "Internet Plus" rural entrepreneurship projects in urban-rural integration and economic development.

Moreover, rooted in a flow space perspective, this research can better assess and analyze the impact of policies on urban-rural integration and rural entrepreneurship. It comprehensively considers the influence of policies on the flow of information, personnel, and capital, thus designing and adjusting policies more effectively to promote the healthy development of urban-rural integration and rural

entrepreneurship. Additionally, it can identify problems and challenges in project implementation and propose more targeted improvement suggestions.

By delving into the flow of elements such as urban-rural mobility, information flow, and talent flow, this research seeks to analyze the impact of flow space on rural entrepreneurship employment within the context of urban-rural integration. It aims to uncover both the positive effects and potential challenges of flow space on rural entrepreneurship employment and propose policy recommendations and improvement suggestions to promote the development of the rural economy and social progress within the framework of urban-rural integration.

## **2. Introduction to Theory**

### **2.1. Definition and Concept of Flow Space**

Flow space is a significant theoretical concept in the fields of urban geography and sociology, initially proposed by the Spanish scholar Manuel Castells [2]. It emphasizes the dynamism and fluidity of space, viewing it as a constantly flowing, changing, and interconnected network. Within its theoretical framework, space is conceived as a dynamic system composed of multiple elements, interconnected through various flow paths, resulting in an integrated network of flows. Flow space is characterized by dynamism, connectivity, transversality, and wholeness. It is intertwined with the network of places, diminishing the constraints of place space and optimizing spatial structures.

### **2.2. Urban-Rural Integration and Rural Entrepreneurship**

#### **2.2.1. Urban-Rural Integration**

Urban-rural integration refers to the mutual blending and interaction between urban and rural areas, aiming to achieve coordinated development and shared prosperity in economic, social, and cultural aspects. The goal of urban-rural integration is to bridge the gap between urban and rural areas, promote the orderly flow and optimal allocation of resource elements, and achieve mutual benefits and balanced development between cities and rural areas [3].

#### **2.2.2. Rural Entrepreneurship**

Rural entrepreneurship is a critical decision driving rural economic development under the context of rural revitalization. "Internet +" rural entrepreneurship primarily involves participation from university students. Leveraging the resources of the internet in the new era, it injects professional and innovative talents into rural economic development, enhances the development of rural industries and economies, and contributes to poverty alleviation efforts in rural areas [4].

#### **2.2.3. Connection**

The symbiotic relationship between urban-rural integration and rural entrepreneurship is evident. On the one hand, urban-rural integration provides a broader market and more resources for rural entrepreneurship, including capital, technology, and talent, facilitating the initiation and development of entrepreneurial projects. On the other hand, it stimulates economic connections and market interactions between urban and rural areas, forming a tightly knit network of connections between them, thereby offering rural entrepreneurship a broader market space and more business opportunities. Moreover, urban-rural integration amplifies government support for rural entrepreneurship, with the introduction of policies and measures bolstering entrepreneurial initiatives in rural areas.

### 3. Conceptual Connections

The rural revitalization strategy, propelled by rural e-commerce entrepreneurship in the era of the internet, has led to the formation of a new network of fluid relationships at the network level, fostering urban-rural integration. Within this network, various elements transcend geographical limitations and continuously circulate, aligning with the central premise of the theory of flow space. Therefore, the theory of flow space can be applied to analyze rural e-commerce entrepreneurship in the context of urban-rural integration development, aiding in a more accurate understanding of the intrinsic mechanisms and dynamic processes of urban-rural integration. Exploring the driving mechanisms of urban-rural integration development from the perspective of flow space is the optimal choice within the context of element mobility [5].

The characteristics of flow space can facilitate information dissemination and resource allocation in urban-rural integration. By constructing and analyzing networks of fluid relationships, the movement of elements between urban and rural areas becomes more convenient and efficient, optimizing resource allocation, promoting economic development, and driving synergistic development between urban and rural areas. Under the impetus of flow space, regions that were previously disconnected establish new spatial relationships based on nodes, transportation, and networks [6].

Under the framework of flow space, urban-rural integration has achieved significant improvements. Flow space, from three perspectives - electronic communication, high-speed road systems networks, pivotal nodes and cores with important connecting functions, and spatial organization dominated by managerial elites (rather than classes), brings different facilitating roles to urban-rural integration. Rural e-commerce entrepreneurship emerges as a result of the combined effects of the first two layers of flow space [7].

Furthermore, as urban-rural integration deepens, the theory of flow space itself is continuously evolving and improving. The practice of urban-rural integration provides new cases and experiences for the theory of flow space, while also offering theoretical support and practical guidance for its further development. This mutually reinforcing relationship enables the theory of flow space and the practice of urban-rural integration to advance and improve together, providing theoretical and practical support for the sustainable development of both urban and rural areas.

### 4. Introduction to Guangdong's "Internet+" Project

Guangdong Province, located in the southern coastal region of China, holds a significant position as one of the forefronts of China's reform and opening-up policy. With its strategic importance and high economic vitality, it stands out as one of the most developed provinces in southern China, characterized by high levels of urbanization and industrialization. Moreover, it boasts abundant rural resources and labor, providing a solid foundation and potential for integrated urban-rural development.

Despite the advanced urban economy, rural economy in Guangdong still lags behind, marked by issues such as a single-industry structure and insufficient rural industrial development. Additionally, there is a pressing need to optimize the spatial layout between urban and rural areas. The province faces disparities in urban development, with significant gaps between urban and rural areas. Infrastructure development in rural areas lags behind, constrained by geographical limitations.

The Guangdong "Internet +" project is a significant initiative driven by the government aimed at promoting the development of rural e-commerce entrepreneurship. It encompasses various support strategies, with a particular focus on initiatives led by university students in the rural e-commerce sector. At its core, the project revolves around internet technology, leveraging digital methods to enhance traditional agricultural industries and provide innovative support for rural commercial

development. By tailoring strategies to suit the specific conditions of rural areas, the project seeks to foster economic development in these regions and facilitate the process of urban-rural integration.

During the implementation process, the government introduced a series of supportive policies, including financial assistance and tax incentives, which played a crucial role in ensuring the smooth execution of the project. Special attention was given to innovative entrepreneurship activities in the rural e-commerce sector led by university students, who were provided with entrepreneurship training, technical support, and resource sharing platforms. The policy orientation of the Guangdong Provincial Government aimed to streamline market access, promote the development of new agricultural management entities, increase support for rural entrepreneurship, and facilitate high-quality development to boost rural revitalization through internet-based e-commerce initiatives.

In the networked society, multidimensional relationship networks have emerged within the Guangdong "Internet +" project. Firstly, it integrates with media networks to establish an electronic financial network that transcends geographical constraints based on e-commerce nature. Within this network connection, rural products have found new economic trading markets. Secondly, there exists a political network supported by government policies, where various rural areas in Guangdong are linked through geographical or governmental cooperation, forming mutual government linkage networks that facilitate the flow of elements. Additionally, rural villagers have established numerous social networks, further expanding the network of connections for rural revitalization and economic development. Flow space is established within these multiple networks, harmonizing and managing the connections between various network nodes and the overall system.

#### **4.1. Project Implementation Process**

The implementation of the Guangdong "Internet +" rural e-commerce entrepreneurship project involves several key steps, including project planning, preparation, execution, monitoring and evaluation, as well as summary and reflection. Initially, during the planning phase, the project's objectives and specific scope are defined, and market research and demand analysis are conducted for rural areas where the project will be implemented. This enables the formulation of tailored implementation plans. University students conduct preliminary project planning, identifying target user groups and economic development directions based on the rural resources such as farming and planting. Subsequently, in the preparation phase, necessary resources for the project are gathered, including initial startup funds, technological resources, and human capital. A project management team is formed to prepare for the subsequent implementation phase. During the execution phase, the focus is on building rural e-commerce platforms leveraging internet networks, conducting system development, and promoting product launches online. This aims to establish a preliminary complete industrial supply chain, facilitating sustainable and cyclical development. The project implementation encompasses steps such as the application of digital agricultural technologies, construction of e-commerce platforms, and establishment of maker spaces and incubation centers. Led by university students, villagers are trained in using platforms like Taobao, leveraging the e-commerce ecosystem to foster networked business operations with scale and synergy effects. Finally, during the monitoring and evaluation phase, project execution is regularly tracked to promptly identify and address issues, while assessing the project's effectiveness and outcomes. Through summary and reflection, the overall project effects are evaluated, successful experiences and shortcomings are analyzed, and improvement suggestions are proposed to guide future project implementations.

#### **4.2. Impact of the Project on Rural Entrepreneurship and Employment**

The implementation of the "Internet +" rural e-commerce entrepreneurship project has provided rural areas with new business models and opportunities, thereby stimulating the enthusiasm and innovation

consciousness of rural entrepreneurs. Furthermore, the development of rural e-commerce projects requires a large number of practitioners, such as those involved in e-commerce platform operation and management, logistics distribution, and customer service. This has brought about new employment opportunities in rural areas, helping alleviate rural unemployment pressures and improve residents' income levels. Additionally, the introduction of university students appropriately addresses the employment pressures faced by this demographic, injecting innovative forces into rural development. Moreover, the promotion of rural e-commerce projects has also facilitated the optimization and upgrading of rural industrial structures, driving the transition from traditional agriculture to modern agriculture. Consequently, it injects new impetus into rural economic development and growth, furthering the standardization and intelligence of rural development while constructing a new sales system [8]. Thus, the Guangdong "Internet +" rural e-commerce entrepreneurship project plays a proactive role in promoting rural entrepreneurship and employment, providing crucial support for the sustainable development of rural economies and the increase of farmers' incomes, thereby fostering the augmentation of rural employment opportunities and the optimization of economic structures.

#### **4.3. Identification of Policy Support Measures in the Project**

In the context of the "Internet +" rural e-commerce entrepreneurship project in Guangdong Province, the provincial government has introduced a series of policies to support rural revitalization, including measures such as financial assistance, entrepreneurial training, and tax incentives, providing vital safeguards for the healthy development of the project. The government has implemented targeted policies to promote innovation and development in rural e-commerce, thereby facilitating the transformation and upgrading of the rural economy and increasing farmers' incomes. Firstly, the government has encouraged individual businesses to transition into formal enterprises, thereby fostering standardized operations and enhancing their competitiveness in the market. Secondly, there has been active promotion of innovation in the operation models of agricultural markets, advocating for their diversification, intelligence, and branding, aiming to enhance the innovation-driven sales channels for agricultural products and increase farmers' incomes. Additionally, the government has supported initiatives such as intellectual property navigation services and the cultivation and utilization of geographical indication trademarks, promoting the technological content and brand effects of agricultural products. Moreover, efforts to strengthen agricultural and rural standardization initiatives have elevated the quality and safety management standards of agricultural products, providing a more stable and reliable market environment for rural e-commerce. The implementation of these policy support measures injects innovative momentum into Guangdong's "Internet +" rural e-commerce entrepreneurship project, providing broader development opportunities for rural entrepreneurs and further promoting the economic revitalization of rural Guangdong while fostering closer connections with urban commercial markets [9].

#### **4.4. Project Issues and Challenges**

During the implementation of the "Internet +" rural e-commerce entrepreneurship project, a series of problems and challenges persist. Firstly, the relatively backward infrastructure and level of informatization in rural areas of Guangdong present obstacles to the development of rural e-commerce, with lagging internet infrastructure construction posing a significant barrier. Secondly, the demographic structure and consumption habits in rural areas differ from urban areas, leading to relatively dispersed demand. The production and sales chains of agricultural and sideline products are lengthy, compounded by the underdevelopment of transportation facilities, resulting in high logistics costs and significant delivery challenges, thus constraining the development of rural e-



commerce. Additionally, the entrepreneurial mindset and innovative capabilities of rural residents are relatively weak, with a lack of experience in e-commerce operations and management, necessitating enhanced entrepreneurship training and skill development. The issue of trust in rural e-commerce also poses a significant challenge, as asymmetric information and transaction risks contribute to lower trust levels among villagers regarding online transactions, hindering the development of rural e-commerce and complicating subsequent transformation and upgrading efforts in rural areas [10].

In response to these challenges, multidimensional and multi-level strategies and mitigation measures can be implemented. Firstly, there is a need to increase investment in rural infrastructure and information technology construction, enhancing network coverage and basic infrastructure such as electronic payment systems to create a conducive environment for the development of rural e-commerce. Secondly, establishing a sound agricultural product logistics distribution network can reduce logistics costs and delivery difficulties, thereby improving the efficiency of agricultural product circulation. The establishment of a regional network through e-commerce also partially alleviates transportation issues. The involvement of university students and the strengthening of e-commerce training in the "Internet +" project appropriately enhance rural residents' entrepreneurship training and skill development, thereby increasing their awareness of entrepreneurship and improving their business management capabilities, promoting the healthy development of rural e-commerce. Lastly, strengthening supervision and regulation of rural e-commerce platforms can enhance platform credibility and trustworthiness, increasing farmers' trust in online transactions and promoting further positive development of rural e-commerce.

#### **4.5. Similarities and Differences between the Project and Similar Flow Space Plans or Urban-Rural Policies**

The "Internet +" rural e-commerce entrepreneurship project in Guangdong Province shares some similarities with other rural revitalization strategies or urban-rural integration policies, but it also exhibits significant characteristics. These projects all aim to promote rural economic development and increase farmers' income, fostering balanced urban-rural integration. They achieve this through policy support and resource investment, promoting industrial upgrading and economic structural adjustment in rural areas to improve farmers' living standards. Secondly, these projects advocate the use of modern technological innovation to promote rural development. In Guangdong Province's "Internet +" rural e-commerce entrepreneurship project, the expansion of agricultural product sales channels is achieved through internet platforms and e-commerce models. Similarly, other spatial planning initiatives or urban-rural policies often promote the use of information technology and intelligent methods to enhance the competitiveness and efficiency of rural industries.

However, their uniqueness lies primarily in the differences in implementation objectives. The "Internet +" rural e-commerce entrepreneurship project in Guangdong Province is more focused on agricultural product sales and increasing farmers' income, aiming to stimulate rural economic vitality and enhance rural entrepreneurship and employment opportunities. Furthermore, it emphasizes market-oriented operations and social capital participation, advocating for the innovation and development of rural e-commerce enterprises and emphasizing the leading role of the market.

#### **4.6. Project Results: Summary and Recommendations**

##### **4.6.1. Summary**

The "Internet+" rural e-commerce entrepreneurship project in Guangdong Province has achieved a series of effects under the framework of flow space. By breaking traditional geographical boundaries, it has facilitated the transmission of information and sharing of resources between urban and rural areas, accelerating the process of urban-rural integration. Simultaneously, while establishing a novel

flow network, it has propelled the optimization and upgrading of rural industrial structure, fostering the transition from traditional agriculture to modern agriculture. Additionally, the project has invigorated the enthusiasm and innovative consciousness of university students in the rural e-commerce sector by providing opportunities for innovation and entrepreneurship, injecting new vitality into the diverse development within the realm of flow space. Nevertheless, further enhancement of policy measures, reinforcement of technical training, and resolution of issues and challenges in project implementation are still required to achieve more comprehensive development.

#### 4.6.2. Recommendations

To enhance the effectiveness of rural revitalization initiatives and foster the healthy development of urban-rural integration, it is recommended to increase investments in infrastructural and information technology development, leveraging the foundations established by the "Internet Plus" rural e-commerce entrepreneurship projects in Guangdong. This includes constructing a more comprehensive flow network to facilitate the free flow of urban and rural resources, thus expediting the process of urban-rural integration. Additionally, establishing a sound agricultural product logistics and distribution network to reduce logistics costs and distribution difficulties will optimize the material flow paths within the flow space, enhancing the circulation efficiency of agricultural products.

Furthermore, strengthening rural entrepreneurship training and skills enhancement will nurture the innovative spirit and entrepreneurial awareness of farmers, promoting the free flow and optimal allocation of talent within the flow space. Reinforcing supervision and regulation of rural e-commerce platforms to enhance their credibility and reliability, thereby constructing a trusted flow network, is essential for fostering the healthy development of rural e-commerce.

Continuously optimizing the policy environment and formulating policies and measures more in line with the characteristics of flow space will provide more stable policy guarantees for flowing elements, thereby promoting the effective flow and optimal allocation of resources within the flow space. This approach ensures the diverse development and mutual sharing within the flow space.

### 5. Conclusion

In the "Internet+" rural e-commerce entrepreneurship project in Guangdong province, people witness a vivid application of the theory of flow space. The utilization of internet technology and e-commerce models breaks traditional geographical boundaries, facilitating the transmission of information and sharing of resources between urban and rural areas. In the process of urban-rural integration, the emergence of rural e-commerce injects new impetus into the development of rural economies. Throughout the implementation of this project, the government has also taken a series of supportive measures to facilitate its development and implementation.

This study lacks long-term tracking and derivative research on the impacts of the "Internet+" project in Guangdong. Additionally, attention should be paid to the implementation of the project in different regions and under different backgrounds, to explore its applicability and replicability in different environments. This would help better understand the differences in urban-rural integration development models and policy measures in different regions and periods, providing valuable experiences and policy insights for urban-rural integration in other areas. Furthermore, there should be a focus on the effectiveness and sustainability of policy support. By analyzing the problems and challenges in policy implementation, suggestions can be provided to improve policies and enhance policy implementation effectiveness, continuously optimizing the policy environment for urban-rural integration and promoting the free flow and optimal allocation of urban-rural elements. Due to constraints such as data availability, this study has limitations, which will be addressed in future



research. Continued attention will be given to the deep connection between the perspective of flow space and the development of urban-rural integration.

## References

- [1] Castells, M. (1989) *The Informational City: Information Technology, Economic Restructuring, and the Urban-regional Process*. Cambridge: Wiley Blackwell.
- [2] Castells, M. (1999) Grassrooting the Space of Flows. *Urban Geography*, 20(4), 294-302.
- [3] Yan, L.X. (2021) A Theoretical Analysis on the Structural Effects of Space of Flows. *Urban Planning Forum*, 5, 32-39.
- [4] Chen, B.X. (2022) Internet + Entrepreneurship in Rural Areas in the background of Rural Revitalization Strategy. *Industrial Technology and Vocational Education*, 20(5), 109-111.
- [5] Zhou, J.N., Bi, X.H., Zou, W. (2020) Driving Mechanism of Urban-rural Integration in Huaihai Economic Zone: Based on the Space of Flow. *Journal of Natural Resources*, 35(08), 1881-1896.
- [6] Shen, L.Z., Gu, C.L. (2009) Integration of Regional Space of Flows and Construction of Global Urban Network . *Scientia Geographica Sinica*, 29(6), 787-793.
- [7] Liu, S.Q., Peng, Z.W. (2020) The Development Mechanism of Villages of Globally Important Agricultural Heritage Systems Driven by the Space of Flow: The Case of Baiyingshan Village in Lincang. *Urban Development Studies*, 27(01), 75-81.
- [8] Wei, M. (2016) *Study on the Development of E-commerce of Agriculture Products under the Background of "Internet + Agriculture"*. Shenyang Agricultural University.
- [9] Portal website of the Guangdong Provincial People's Government. (2024) Guangdong Office Letter. Retrieved from [https://dara.gd.gov.cn/zcwj/content/post\\_4245613.html](https://dara.gd.gov.cn/zcwj/content/post_4245613.html)
- [10] Li, W.H. (2018) *A Study on the New Route of Rural Urbanization in China under the Background of "Internet+"—A Case Study of Junpu Electric Commercial Estate in Guangdong Province*. Guangdong Ocean University, 2018.