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Analysis from a Macro Perspective: Factors Affecting the Effectiveness of E-commerce in Chinese Rural SMEs

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Abstract

In recent years, due to the support of China's rural policy and the increasing network coverage, coupled with the rich resources of China's rural areas, the advantages of China's rural SMEs have slowly begun to emerge, and the development of e-commerce for China's rural SMEs is accelerating. The main entry angle of this paper is the development of China's rural macro-environment, digging into the factors influencing the development effect of e-commerce for rural SMEs, summarizing three factors (Internet technology, rural logistics, and rural talents) that influence the development effect of e-commerce for Chinese rural SMEs under the development of macro-environment through a large amount of literature, and putting forward three research hypotheses: Internet technology development influences the development effect of e-commerce for Chinese rural SME e-commerce development effect, rural logistics development affects the development effect of Chinese rural SME e-commerce, and rural talent development affects the development effect of Chinese rural SME e-commerce. This study is developed based on secondary sources such as articles, paper, theses, education portal and different websites. This paper emphasizes the significance of analyzing the factors that affect the effect of e-commerce development of Chinese rural SMEs from a macro perspective and proposes the next research direction, which provides a certain theoretical basis for the study of the e-commerce development of Chinese rural SMEs.

Keywords: China, Rural areas, Macro environment, SMEs, E-commerce, Development effect

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Introduction

With the continuous development of science and technology and the strengthening of the trends of economic digitization, competition globalization and trade liberalization, e-commerce in China has developed rapidly, driving the development of e-commerce in rural SMEs. E-commerce for rural SMEs has become inevitable, and through e-commerce, it can reduce operating costs, expand marketing coverage and achieve the purpose of improving the economic efficiency of enterprises. However, when SMEs conduct e-commerce, they are affected by many factors and are prone to various problems, which affect the quality and efficiency of e-commerce (Guo Dan, 2021).

Due to the policy help, it makes China's rural SMEs a very good development background. 2020 is a key year for China to fight poverty, and in order to strongly support the development of the rural economy, many policies on supporting the rural economy have been introduced in recent years, such as in October 2017, the strategy of rural revitalization was proposed for the first time, and in December 2017, the road of socialist rural revitalization with Chinese characteristics was proposed for the first time. In January 2018, a comprehensive deployment strategy for the implementation of rural revitalization was carried out. In addition, in order to support the development of e-commerce in rural SMEs and let agricultural products go out, China has introduced many policies to promote the development of rural e-commerce and strongly support rural e-commerce and e-commerce poverty alleviation, such as the Opinions on Vigorously Developing E-commerce to Accelerate the Cultivation of New Economic Dynamics and the Guiding Opinions on Promoting the Accelerated Development of Rural E-commerce issued in 2015, which put forward "one village, one product", strengthening the standardization and branding of rural small and medium-sized enterprise products, and the "State Council's Guidance on Actively Promoting "Internet+" Action" and "Notice on Deepening Agricultural Business Collaboration to Vigorously Develop Agricultural Products E-Commerce" issued in 2017, using the Internet + agriculture, integrating resources and solving farmers' problems, the Notice on Carrying Out the 2018 Comprehensive Demonstration of E-Commerce in Rural Areas issued in 2018 to encourage the rural e-commerce doing well as a demonstration point to promote the development of other areas, and the Notice of the Central Committee of the Communist Party of China and the State Council on Adhering to the Priority Development of Agriculture and Rural Areas to Do a Good Job in 2019 The "Opinions on the Work of the Three Rural Areas" proposed to let agricultural products go out, rural tourism come in, and promote the economic growth of rural SMEs. China's rural SMEs need to be developed to seize this opportunity to develop rural e-commerce, keep pace with the times, constantly update the knowledge of e-commerce, the use of online marketing means to promote rural SMEs, which will bring great changes to the countryside.

With the rapid development of computer network information technology and the acceleration of the market economy in China, e-commerce is becoming more and more mature and has become an important part of marketing for Chinese enterprises, and has been well applied and developed in many developed regions of China, which has given a good pioneering role and great opportunities for small and medium-sized enterprises in rural China in the application of e-commerce. With the rapid spread of network technologies such as 5G and the development of online consumption during the new crown pneumonia epidemic in 2020, people's concepts and consumption habits have changed dramatically. The change in customer consumption patterns has led SMEs to turn their attention to e-commerce. Rural SMEs started e-commerce late and are not well aware of e-commerce and do not make good use of online resources (Xiaoyang & Yin L.X., 2021). Online marketing is an important part of the e-commerce process, and after the rural revitalization strategy was proposed, most Chinese scholars have studied the interaction between rural e-commerce or agricultural e-commerce and rural revitalization from the perspective of rural e-commerce, and fewer have studied rural development to promote e-commerce (Yang Lu-Ming & Lu Yan-Fei, 2019). This study identifies the factors influencing the development of e-commerce in rural SMEs in China from a macro perspective, which provides some basis for governmental decision-making and fills the research gap of promoting e-commerce in rural development from a macro perspective.

Literature Review

Internet Technology and Rural E-Commerce

Internet technology is an emerging technology based on computer technology. Internet technology connects all kinds of devices through the wide area network of computer network, which makes people's information transfer speed greatly increased, the speed of information circulation greatly increased, and the development speed of all kinds of software greatly improved people's learning and

living standards. The application of the network by rural SMEs can save certain human and material resources in the operation of the enterprise.

(Yang Yanhui, 2020) in an attempt to integrate the Internet and agricultural connections through research on the Internet and research on agricultural marketing theory. Small and medium-sized enterprise e-commerce should keep up with the development of new media technology, and timely adjust the marketing strategy of the Internet, while using new media technology, such as WeChat, microblogging, public number, etc. focus on one-way marketing, interactive marketing to expand the transmission range and dissemination speed of corporate information; good use of marketing and promotion countermeasures, through the integration of online and offline, to strengthen the corporate brand effect, enhance corporate brand awareness and promote corporate sales (Liu Chang, 2020). (Wang Y. & Xin X. L., 2021) analyzed the swot of rural e-commerce and pointed out that to improve the income of rural residents and to help them escape from poverty, it is necessary to strengthen the construction of infrastructure, expand the coverage of rural broadband and increase the access and quantity of rural residents to broadband, so that rural e-commerce can be raised to a level. They proposed that several factors, such as rural residents' per capita income, rural broadband access users, rural population, and rural road mileage, affect the development of rural e-commerce, and conducted correlation data analysis by Spss, using Pearson correlation, and concluded that rural residents' per capita income, rural broadband access users, rural population and rural e-commerce development have significant correlation, and the number of rural road miles has no effect and can be removed from the model. With the increase of network coverage and the number of Internet users, the scale of online retail users is increasing, bringing a more convenient and cost-saving marketing model to Chinese enterprises. At present, the main groups of the Internet are post-80s and post-90s, and the main groups of webcasting platforms are post-90s and post-00s. The E-commerce of Chinese enterprises has strong support and has entered a new stage. To do well in e-commerce, we should make good use of online big data to do accurate marketing; carry out O2O online and offline combined online marketing to develop market scope; and use live streaming and short video, which are more used by mainstream people, to do accurate marketing to people with high brand loyalty and promote interactive marketing (Ji Manlin, 2021). To summarize the above, this study proposes the following research hypotheses.

H1: The development of Internet technology affects the effectiveness of e-commerce in Chinese rural SMEs

Logistics and Rural E-Commerce

The concept of logistics was first introduced in the United States, and its original meaning was "physical distribution" or "distribution of goods". After the 1970s, the term "distribution of goods" was gradually replaced by "logistics" in Japan. Logistics is an efficient, low-cost, effective, low-cost circulation and storage of goods, services, and related information to meet the needs of customers. Logistics, with the warehouse as the core, drive the development of products and markets. Logistics is the planning, implementation and management of raw materials, semi-finished products, finished products and related information from raw materials, semi-finished products, finished products and related information at minimal cost through transportation, storage and distribution according to customer needs.

The development of rural e-commerce can promote the aggregation of rural population and industry, as well as the scale and intensive production of industry, and has the significance of solving the surplus rural labor force, accelerating the urbanization process and promoting rural economic growth. (Yang Cheng, 2019) put forward the problems of imperfect distribution systems and unsound development policy of rural e-commerce, and proposed to address these problems by increasing policy capital construction and improving strategies of the logistics system. Logistics work is a part of China's agricultural products e-commerce that cannot be ignored, but the maturity of the logistics system is a greater challenge for China's rural areas. The perfection of the logistics system is not only reflected in the enrichment as well as diversification of the main logistics and distribution channels, but also the reduction of transportation costs and the improvement of distribution quality brought by

the perfection of the logistics system, the effective integration of sales channels and management resources, which can promote the rural economy. The effective integration of sales channels and management resources can promote the development of rural economy and improve the production speed and development of rural SMEs (Chen W. H., 2022). In the context of online shopping has become the main purchase method of people, people pay more and more attention to food health and safety, which has stimulated the development of rural e-commerce to a certain extent, but the development level of rural logistics does not match the development level of rural e-commerce, which restricts the further development of rural e-commerce to a certain extent. The coverage of the rural network has been reached, and the technical conditions for villagers to use the network to buy and sell are mature, but the response speed of rural logistics cannot keep pace with the explosive network transaction volume, and the logistics enterprises can share logistics resources and reasonably plan logistics operations to narrow the logistics gap between urban and rural areas; rural SMEs as the supply side output most of the fresh rural products mostly, and the logistics.

The standardization requirements are higher, some areas are remote, the products need to go through many times of turnover and face the risk of loss, need to fully understand the categories and characteristics of the products, while building and improving the logistics infrastructure in rural areas, while creating regional logistics centers and clusters to reduce the pressure brought by logistics turnover. It is also necessary to invest heavily in logistics information technology infrastructure and logistics hardware infrastructures, such as roads and base stations, before the rural logistics system is perfected (Zhang Rui, 2021). Zhu Liang, (2021) launched a study on rural logistics from the perspective of two-way logistics of rural e-commerce, most of the logistics research focused on the supply-side side of the rural areas, and Zhu proposed two-way logistics of industrial goods to the countryside and agricultural products to the city, which is more conducive to the integration of logistics system, and the logistics system in real life is definitely in two-way, and the research out of supply or out of demand cannot fully reflect the rural E-commerce logistics integrity.

In the study of two-way logistics, she found that although two-way logistics is conducive to rural development, farmers' affluence and product flow, there are problems of integration, infrastructure, informationization, specialization, etc., which require the government to increase investment in building logistics infrastructures, such as building refrigeration and insulation equipment and warehousing equipment, smooth rural transportation, strengthen talent training, improve informationization, and introduce favorable policies to promote the integration of two-way logistics. The government needs to improve the distribution mode and innovate the distribution network system, such as the cooperation between logistics enterprises and the cooperation between logistics enterprises and e-commerce platforms; improve the distribution mode, such as the establishment of distribution outlets to implement common distribution or cooperation with stores, the implementation of bus delivery services. The development of two-way logistics promotes the development of rural e-commerce to a certain extent, and the implementation of e-commerce can be more effective only if the infrastructure of logistics is continuously improved. (Wang S. L. & Tang J. R., 2021) Based on the study of rural e-commerce logistics layout, the model was constructed by generalized moment estimation to verify that the development of rural e-commerce enhances the consumption experience of rural residents, the improvement of rural e-commerce and logistics system helps rural residents' consumption upgrade, and the increase of rural residents' income and the change of consumption concept promote the development of rural e-commerce. Building a logistics system in the context of rural revitalization, docking with rural special industries, and establishing a shared self-built logistics and third logistics system are important foundations to promote the further development of e-commerce in rural SMEs. Summarizing the above scholars' research experience, this study proposes the following research hypotheses.

H2: Rural logistics development affects the effectiveness of e-commerce for rural SMEs in China

Talent and Rural E-Commerce

Talent refers to people who have a place in various fields and who have certain technical skills, can do creative work and make outstanding contributions to society. In business, "talent" is defined as a

person with certain expertise or technology who can adapt to the needs of the job, engage in creative work, and contribute to the development of the company. The talent in this study refers to the technical personnel in rural areas who are capable of engaging in rural e-commerce-related business with web technology skills or other skills related to e-commerce development.

Developing rural e-commerce is an important way to implement rural revitalization strategy, and the development of rural e-commerce needs e-commerce talents, including rural e-commerce leading talents, operation talents, technical talents, innovation and entrepreneurial talents, project planning and management talents, service talents and agricultural products cross-border e-commerce talents. Based on the current situation of rural e-commerce talent training, the authors analyze the problems and reasons of talent training and propose that relevant departments should formulate corresponding policies to encourage more talents to invest in rural e-commerce; institutions of higher education should actively participate in rural e-commerce talent training, improve rural e-commerce talent training mechanism, set goals and plan curriculum system according to the needs of rural areas. In addition, we should build a "school-enterprise-village cooperation" talent training model to cultivate talents suitable for the development of rural e-commerce (Liu Shanying, 2020). (Yu Xiaobing, 2017) analyzes the current situation of e-commerce in SMEs according to the significance of e-commerce to SMEs, and proposes that enterprises should improve their awareness of e-commerce, strengthen the concept of online marketing, increase the publicity and promotion of e-commerce, pay attention to training professional e-commerce talents and improve the organization and management system of e-commerce. By improving the awareness of e-commerce, cultivating the atmosphere of e-commerce in enterprises, exploring the methods of online marketing, formulating e-commerce strategies for the characteristics of the online market, increasing the publicity in e-commerce and focusing on brand promotion; at the same time, attaching importance to the cultivation of talents, strengthening staff training and establishing a complete training system. To strengthen the cultivation of rural e-commerce talents, increase the education of cultivating network talents, cultivate network talents in multiple channels, and mobilize the enthusiasm of rural residents to learn so that e-commerce can be accepted quickly in rural areas; secondly, the introduction of foreign talents should be considered; it takes some time to cultivate the original talents in rural areas, and the introduction of foreign talents can solve the shortage of network talents in rural China in a short time (Ma Sien, 2021).

Rural e-commerce needs to have the input of logistics talents, at present, most of the staff of rural logistics are mainly local residents, and local residents have a limited education level, mainly involved in the basic work of logistics, logistics management and development work talent is still relatively short, to improve the infrastructure environment at the same time, the introduction of appropriate policies to encourage migrant workers to return to their hometowns to work, guide college students to join rural after graduation E-commerce work, carry out professional training in e-commerce logistics, drive more people to apply the theory to practice, and promote the development of rural logistics and rural e-commerce (Zhang Rui, 2021). It is necessary to strengthen the training and ability of e-commerce technology for young people in secondary education, strengthen the training of e-commerce promotion, cultivate operational technical personnel for e-commerce, and promote the development of e-commerce from technical support (Ji Manlin, 2021). Rural e-commerce has effectively promoted the development of the rural economy, and with the inclination of China's policy towards rural areas, many Internet industry giants have responded to the policy call to actively explore the local characteristics of rural areas and integrate resources to step into the rural e-commerce market, so that rural resources can be enriched to a certain extent and greatly improve the problem of difficult rural transactions, while departments at all levels have begun to increase the amount of investment in e-commerce for rural SMEs. Netizens and government officials join the camp of rural SMEs e-commerce, and carry out live webcasts with goods for rural products, etc., which effectively promote the development of rural e-commerce, but for most rural areas that are rapidly developing e-commerce, e-commerce talents are always an important factor that restricts its development.

Zhou Jingting, (2021) proposed to improve rural e-commerce from the rural level and university level, however, the problem of talent shortage is an important issue. At the rural level, we should do

a good job of comprehensive propaganda, set up a rural e-commerce help detachment, change farmers' mindset, let everyone in rural SMEs master certain e-commerce skills, and actively use e-commerce platforms and channels to solve the problem of selling products; at the university level, we should follow the requirements and needs of the times in terms of textbook content, curriculum setting, and talent training programs, and actively train e-commerce talents for rural areas. Take the initiative to use existing resources to help rural enterprises carry out targeted e-commerce training, reach out to the rural front line, and apply the theory of e-commerce to the practice of rural SMEs. Summarizing the above scholars' research experience, this study proposes the following research hypotheses.

H3: The development of rural talents affects the effectiveness of e-commerce in Chinese rural SMEs

Research Framework

A research framework is a structure that is used to graphically explain the main structures of the study, the variables, and the pre-determined relationships among them. Based on the above literature review arguments and theoretical claims, this study constructs a model of the factors affecting the effect of e-commerce development in Chinese rural SMEs in terms of three aspects: rural Internet technology development, rural logistics development, and rural talent development, starting from the development of the macro environment in which Chinese rural SMEs are located, and develops a framework designed to test this relationship, as shown in Figure 1.

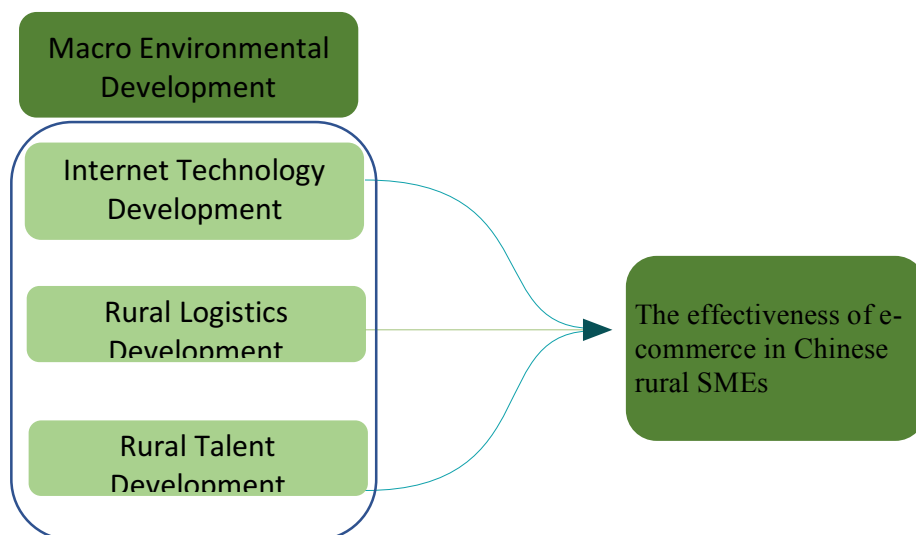


Figure 1: Proposed Research Framework

Methodology

This study has been completed to analyze the factors affecting the effectiveness of e-commerce development in rural SMEs in China based on secondary sources, the data were mainly obtained from articles, papers, theses, educational portals and different web pages related to e-commerce in rural SMEs in China. This study is analyzed from a macro perspective; therefore, we have studied the websites related to Chinese government policies on rural SMEs, rural e-commerce in China. Based on the literature review and theoretical research on "e-commerce, rural China, and SMEs", we constructed a program research framework and study on the factors that affect the effectiveness of e-commerce in rural China.

Implications in Research and Practice

Rural e-commerce is an important grip to promote rural economic development and rural revitalization, and it is an inevitable choice for the development of rural e-commerce. E-commerce network marketing means can make China's rural SMEs have a way to introduce themselves out. China is vast and rural areas are scattered, so it is difficult to integrate all rural enterprises, but in the process of business operation, rural SMEs can market their products through the use of e-commerce network marketing, which is of great benefit to promote the development of rural enterprises.

At present, there is a large space for the development of rural e-commerce, favorable policies and agglomeration development, but there is a lack of rural e-commerce talents, weak modern logistics system, low standardization of agricultural e-commerce, and difficulties in regional coordinated development (Wang Peidong, 2016). The development of e-commerce in rural SMEs will encounter more problems in the early stage, such as talent problems, technical problems, logistics problems, etc. However, at present, the state has a lot of supportive policies for rural areas and SMEs, and has made the fight against poverty in rural areas an important task in recent years, and the development of rural SMEs has brought many opportunities to the rural economy and provided a lot of employment opportunities for rural residents. With the support of the state, the early difficulties of e-commerce for rural SMEs in China will be well solved.

Research Limitations and Future Directions

The Internet has given Chinese rural SMEs more opportunities to learn about the world, and the Internet in China has developed rapidly in recent years. With the same technology and talents, China's rural areas are also rich in resources and easy access to raw materials, which have very broad development prospects. However, there are multiple levels and perspectives of factors affecting the development of e-commerce in rural China. This study only starts from the development of the macro environment in which rural Chinese SMEs are located, and constructs a model of factors affecting the development of e-commerce in rural China. SMEs have relatively limited power and can only seize development opportunities in the macro environment according to government policies.

At present, Chinese rural SMEs have different degrees of application in e-commerce online marketing strategies, but there are certain differences between urban and rural areas, and between large enterprises and SMEs. With the impetus of the Internet, many Chinese companies have grown into corporate giants, and their successes have provided us with valuable cases for studying e-commerce and have shown us the huge business opportunities of conducting e-commerce. Therefore, the next step of research on the development of e-commerce in rural SMEs can be conducted more from a micro perspective, and case studies of successful enterprises' e-commerce can be conducted to provide us with a better. Therefore, the next research on e-commerce development of rural SMEs can be conducted more from a micro perspective, with case studies of successful enterprises' e-commerce, so as to provide a reliable basis for us to better grasp the business opportunities under network conditions; or to explore more operable strategies applicable to rural SMEs from the enterprises' perspective.

Conclusions

This study identifies the factors that may affect the effect of e-commerce development of Chinese rural SMEs through literature collection and research, provides a simple research framework, and puts forward three hypotheses for the macro environment of e-commerce development of Chinese rural SMEs that may affect the effect of e-commerce development of Chinese rural SMEs, and e-commerce of Chinese rural SMEs will. With the continuous development of e-commerce, e-commerce of Chinese rural SMEs will be more and more widely used, which can, to a certain extent, promote the improvement of rural e-commerce, and at the same time improve the level of use of online marketing tools of rural SMEs, and the e-commerce system will become more and more mature. Under the premise of development based on the macro environment, how Chinese rural SMEs can learn advanced technology and use e-commerce network marketing strategy to develop in the information age is the ultimate purpose of our exploration.

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