

Development of Fresh Agricultural Products Sales Assisted by E-commerce Under Targeted Poverty Alleviation Strategy

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Abstract

With the development of e-commerce technology and platform, the fresh agricultural products e-commerce in China is growing rapidly. However, few relevant studies on fresh agricultural products e-commerce helping farmers under China's targeted poverty alleviation strategy were conducted. This paper mainly studies the fresh agricultural products e-commerce to help farmers and agriculture, based on the precise poverty alleviation strategy around the country, to analyze the factors and problems in the process of development, to summarize anti-epidemic measures taken by major e-commerce platforms and the opportunities and challenges faced by e-commerce of fresh agricultural products under the epidemic situation. Finally, the questionnaire survey results were analyzed, and based on the analysis results, personal opinions and suggestions for targeted poverty alleviation of "Internet +" agricultural e-commerce were put forward.

Keywords: Fresh agricultural products e-commerce; Targeted poverty alleviation by e-commerce; Agriculture assisted by e-commerce under the anti-epidemic background.

1. Introduction

The development of fresh agricultural products should actively grasp the opportunity of national policy and various poverty alleviation projects carried out by the e-commerce platform, to effectively build the brand image of fresh agricultural products and start from the cold-chain logistics to create a channel for farmers to get rid of poverty and become rich. Fresh agricultural products e-commerce is well known to have advantages of low cost, small risks, and flexible operation. There are also shortcomings such as low popularity and lack of storage sites [1]. In the future development process, it will benefit from the development space such as strong policy support and the continuous growth of rural Internet users, but also face the challenges such as fierce industry competition and distrust of some farmers.

By analyzing the development of fresh agricultural products e-commerce in some developed countries such as the United States, Japan and Germany, measures such as agricultural informatization construction and government supervision legislation were suggested for development of fresh agricultural products e-commerce in China. A government-led agricultural products network information service system was suggested to establish, helping farmers to get comprehensive agricultural products market information timelier. At present, the development of rural e-commerce and the strategic management of targeted poverty

alleviation in China have not formed a win-win situation for interactive coordination. Relationships among the government, the people and other social organizations should be properly handled, according to the specific development of the rural economy, to adjust and optimize the existing management mechanism. "Intelligence support" strategy is committed to building efficient ecosystem for rural e-commerce development, to help poor farmers becoming rich. Furthermore, an e-commerce management system should be built to improve China's fresh agricultural products industry chain in the follow-up development. On this basis, a high-quality online marketing channel will be created, combining with the network technology system to unite the poor farmers across the country, to help them get rid of poverty and become rich.

Fresh agriculture products e-commerce has achieved rapid development in the process of fighting the epidemic. The rise of fresh agriculture products e-commerce with contactless distribution as the main feature has great development space in the future, will become a new growth point in the field of e-commerce, and achieve most attention and favor of major e-commerce platforms, though there are still many problems to be solved [2]. The epidemic has posed both challenges and opportunities to the development of agricultural e-commerce. During the epidemic, safe, healthy, and green agricultural products should be sold at preferential prices in a timely manner, so as to effectively sell unsalable agricultural products and increase farmers' income. It can also release the "repressed" consumption impulse of urban residents during the epidemic period and reasonably meet their consumption demand.

In terms of the research on the development of fresh agricultural products e-commerce, some domestic and foreign studies generally believe that fresh agricultural products e-commerce has great prospects for development, but there are also many problems, and scholars put forward suggestions from multiple perspectives. However, the targeted poverty alleviation strategy is rarely considered. The practical role of the development of fresh agricultural products e-commerce plays in targeted poverty alleviation strategy, the factors that agricultural e-commerce affect the development of fresh agricultural products, and the development countermeasures of e-commerce to help farmers under the targeted poverty alleviation strategy were rarely discussed.

Under the background of "Internet+", e-commerce has developed into one of the most popular and promising emerging industries in rural areas, becoming an important carrier for targeted poverty alleviation strategy, and comprehensively promoting targeted poverty alleviation work in China. With the help of China's economic policies and mature market conditions, China's fresh agricultural products e-commerce is growing and developing rapidly, but there are also some problems to be solved. In addition, due to the epidemic, fresh agricultural products in most poor areas cannot be sold in time, causing severe losses to farmers. During this period, major e-commerce platforms actively carried out anti-epidemic projects to help farmers. On one hand, they opened the supply and marketing channels of fresh agricultural products and reduced farmers' losses during the special period. On the other hand, it has satisfied the shopping needs of some consumers during the special period and promoted economic recovery and prosperity.

In terms of the research on fresh e-commerce suppliers during the epidemic period, many domestic scholars have pointed out that fresh e-commerce suppliers have achieved rapid development after the COVID-19 outbreak, but also face great development difficulties. The problems that the whole fresh food industry may face are analyzed and countermeasures are proposed. However, these studies all analyzed the whole fresh food industry at macro level and did not specifically analyze the development status of fresh agricultural products during the epidemic, nor did they carry out specific research and analysis on the anti-epidemic agricultural assistance projects and their impacts during the epidemic. Therefore, combined with China's targeted poverty alleviation strategy and fresh agricultural products to help the development of

agricultural e-commerce, this paper analyzes the anti-epidemic and agricultural assistance projects carried out by major e-commerce platforms during the epidemic and associated impacts, so as to promote the effective promotion of targeted poverty alleviation measures of China's e-commerce in the future [3].

2. Targeted poverty alleviation by e-commerce

2.1. Introduction of targeted poverty alleviation strategy

Targeted poverty alleviation by e-commerce refers to the use of e-commerce technology to help the poor people, to optimize the performance of Poverty alleviation projects in China and achieve the goal of poverty alleviation and development in China. Among them, e-commerce is one of the means to get rid of poverty; Poverty alleviation is the goal and also the desired effect. Targeted poverty alleviation by e-commerce, as a new means of poverty alleviation to promote the economic development of poor areas, helps people in poor areas integrate the production and marketing of agricultural products, thus increasing their income and driving poor areas out of poverty [3].

Targeted poverty alleviation by e-commerce is one of the effective methods and ways of lifting rural economy poverty. The biggest role of e-commerce in poverty alleviation is to let the poor directly contact with the broad market for the first time, which creates a new development space for the poor population and helps them to realize innovation and entrepreneurship by using Internet e-commerce technology to get rid of poverty. Targeted poverty alleviation by e-commerce helps optimizing information exchange channels to avoid agricultural risks. The Internet breaks the information closure caused by poor geographical conditions and traffic jams, balances the information difference between urban and rural areas, enables farmers to make appropriate arrangements and adjustments to agricultural production according to the latest market information, and effectively avoids the risks caused by market fluctuations.

Targeted poverty alleviation by e-commerce help promoting changes in living and learning styles in poor areas. With the great investment of Internet infrastructure in rural areas, a variety of new Internet products and services have entered the countryside. The new development concept of Internet has also been popularized in rural areas, which has had a positive impact on the consumption habits and lifestyles of rural areas. Big data analysis can be used to effectively identify the distribution of rural poor population, determine the degree, and causes of poverty, and understand the advantages of local resource allocation and environmental conditions, to better target poverty alleviation according to the actual situation of each region.

2.2. Development of fresh agricultural products e-commerce

2.2.1. Rapid development and higher trading volume

In recent years, fresh agricultural products e-commerce has developed rapidly. With the support of China's agricultural preferential policies, the transaction scale has been expanding. On November 11 of 2018, the total transaction volume of agricultural products on Alibaba e-commerce platform exceeded 4.5 billion yuan, among which more than 21 kinds of agricultural products were traded. The sales volume of core agricultural products located in 10 model counties doubled through Alibaba online platform, such as Li County apple, Fengjie navel orange, Changting passion fruit, etc. In 2019, fresh products accounted for 26.3% of the national online retail sales of agricultural products. This industry has huge market potential and is called a new development market in the field of e-commerce.

2.2.2. Support from national policy

In 2005, China formally created "green channel" for fresh agricultural products; In 2014, the No. 1 document of the Central Government clearly pointed out that laws and policies related to the economic construction of agricultural e-commerce service platform should be strengthened. In 2015, No. 61 document of The State Council pointed out that a two-way circulation channel should be established for "industrial products going to the countryside" and "agricultural products going to the city". In 2017, the No. 1 Document of the CPC Central Committee issued a call to promote 'Internet +' modernist agricultural action; In 2020, the central No. 1 document clearly claimed to strengthen the construction of agricultural logistics facilities.

2.2.3. Promotion by booming market

In terms of market supply, agricultural output has increased year by year due to the progress of production technology. As a result, sufficient and stable supply of goods were provided for the development of e-commerce. In terms of user demand, with the improvement of consumption level and quality of life, Chinese residents have higher requirements for the quality and convenience of purchasing agricultural products. The rise and development of fresh agricultural products e-commerce coincides with the consumption concept of modern consumers focusing on green safety and diversified choices, creating good conditions for the development of fresh agricultural products e-commerce.

2.3. The role of targeted poverty alleviation strategy

2.3.1. Help rural households reduce costs and increase incomes

China's annual output of fresh agricultural products is huge, while poor sales will seriously reduce farmers' income. Because of the problem of preservation and decay, farmers often face huge losses caused by untimely sale of agricultural products; In addition, coupled with the lack of access to information and sales ability, individual farmers will easily come up with unsalable agricultural products backlog or low prices. On one hand, farmers can directly contact consumers on the e-commerce platform and conduct transactions in accordance with market details in a timely manner, which reduces redundant manpower and material resources in the transaction process and effectively reduces production and operation costs. On the other hand, with the help of e-commerce technology, agricultural products can be directly circulated from rural production areas to urban consumption areas, maximizing the output value and effectively increasing farmers' income.

2.3.2. Effective promote the development of agriculture

Agricultural products have strong production seasonality and relatively fixed maturity period. Fresh agricultural products with large demand elasticity usually have large production scale and will form a huge supply in the region, with a certain amount remain unsold in the maturity period of agricultural products every year. The vast development space and information exchange conditions provided by e-commerce platforms can help poor farmers timely grasp the current situation of market demand. According to the e-commerce platform, accurate information for scientific planning and organization will be provided. The production amounts of agricultural products can achieve balance between supply and demand, to ensure the stability of earnings. As a result, the development of agriculture will be effectively promoted.

2.3.3. Satisfaction for upgrading consumption

With the improvement of people's consumption level and the acceleration of the pace of life, consumers are more concerned about the safety and convenience of buying fresh agricultural products [4, 5]. Therefore, the market demand for fresh agricultural products is also more inclined to high standards and high quality. Consumers can easily and quickly obtain the specific information of all kinds of fresh agricultural products provided by the e-commerce platform through the network, and conveniently and flexibly buy fresh agricultural products according to their needs. Driven by this demand, fresh agricultural products e-commerce can provide consumers with more high-quality products and services to meet the upgrading needs of consumers [6].

3. The questionnaire survey

The total number of samples in this questionnaire is 90. The purpose of this questionnaire is to understand consumers' understanding and participation in the situation related to e-commerce to help farmers. The respondents were of all ages and occupations; the questionnaire is an online questionnaire survey, which is filled in according to the actual situation of the respondents.

3.1. Understanding of targeted poverty alleviation strategy for e-commerce

As described by Fig.1, most consumers have little (61.9%) or no knowledge (26.2%) of targeted poverty alleviation policies of e-commerce, and only a few consumers have a good understanding of this concept. Therefore, in the process of implementing targeted poverty alleviation by e-commerce, it is very important to strengthen the publicity of targeted poverty alleviation policies by e-commerce, so that consumers can fully understand and mobilize their participation.

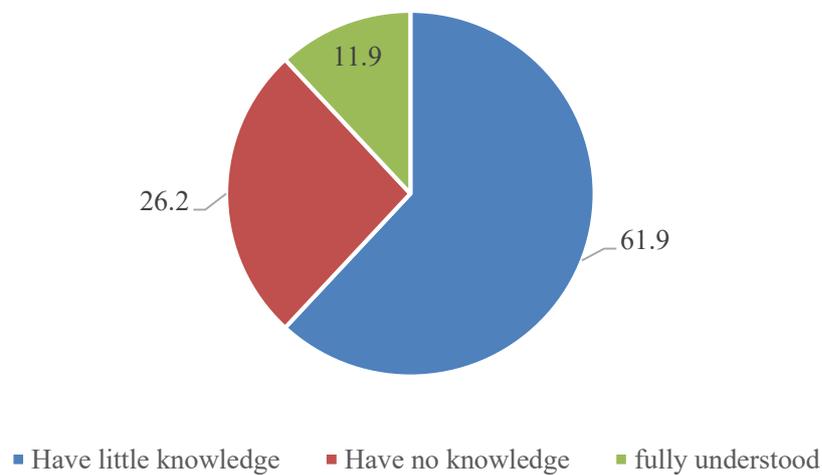


Fig.1 Understanding of targeted poverty alleviation strategy for e-commerce

3.2. Whether visited the relevant webpage of agricultural products and have purchasing experience

The data of Fig.2 and Fig.3 showed that more than half (64.3%) of consumers have seen poverty alleviation strategy for agricultural assistance activities on e-commerce platforms, but part of them did not click on them or purchase any agricultural products on these platforms. Most consumers do not pay much attention to poverty alleviation and agricultural assistance through e-commerce of agricultural products,

and they do not understand the impact and social role of e-commerce on poverty-stricken areas, so they tend to ignore it.

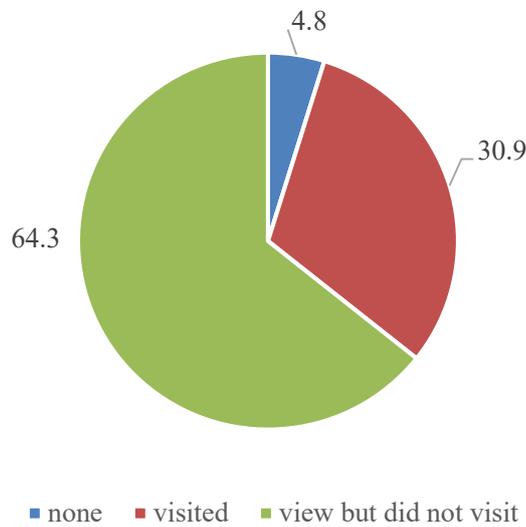


Fig.2 The result for interviewee whether visited relevant webpage of agricultural products.

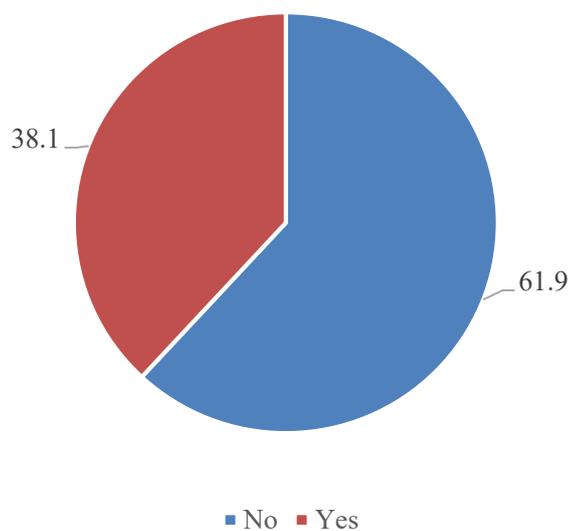


Fig.3 Whether buy agricultural products on e-commerce platforms?

3.3. Whether willing to support farmers by purchasing agricultural products on e-commerce platforms

Most consumers (76.2%) are willing to support and help the farmers and are willing to make a contribution to support the development of e-commerce by purchasing agricultural products on the platform. The reason why there are still a lot of people who have not participated in the project is that they do not know much about the poverty alleviation strategy. Therefore, this is urgent to spread the process of targeted poverty alleviation through e-commerce to more and more people in China.

3.4. The frequency consumers bought agricultural products from e-commerce before and after the pandemic

The data of Fig.5 and Fig.6 showed that the frequency for consumers to purchase agricultural products significantly increased after the outbreak of pandemic. During the outbreak period of the pandemic, more consumers tend to shop online, which cultivating the consumer behavior of online purchasing agricultural products, with the advertisement by platforms during the period of disease, consumers know more about the poverty alleviation strategy and willing to support and help the farmers in trouble.

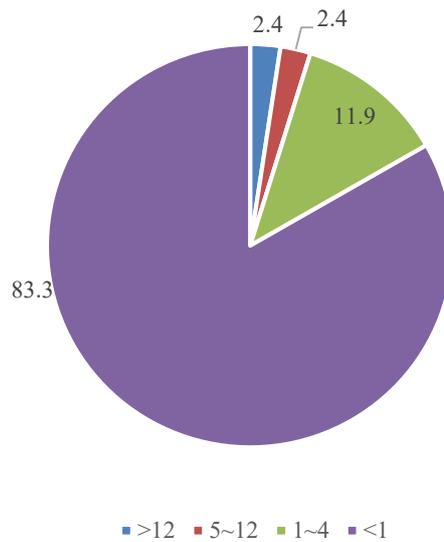


Fig.5 The frequency of consumers bought agricultural products from e-commerce before the pandemic (times per month)

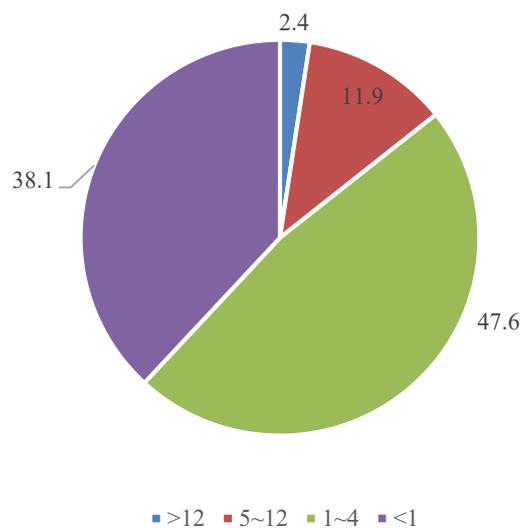


Fig.6 The frequency of consumers bought agricultural products from e-commerce after the pandemic (times per month)

3.5. The reasons for not purchasing agricultural products by e-commerce

From Fig.7, we can see the results as follows. In addition to lack of understanding of e-commerce for agricultural products, another problem is that consumers are worried about the quality of agricultural products and the after-sales service. Based on the reasons people did not buy agricultural products by e-commerce, in order to promote the comprehensive implementation of targeted poverty alleviation policies of agricultural products e-commerce in China, it is necessary to vigorously strengthen the monitoring and management of agricultural products quality and after-sales service, not only to ensure the quality of agricultural products themselves, but also to strengthen the service awareness of the platform and optimize consumer purchasing experience.

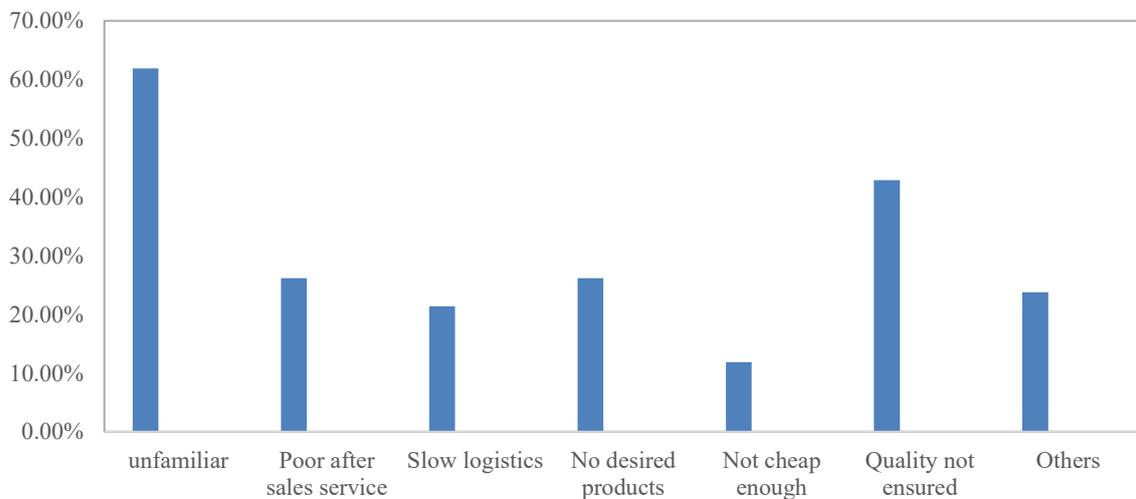


Fig.7 Ratios of reasons people did not buy agricultural products by e-commerce

4. Analysis for development of fresh agricultural products e-commerce

4.1. Factors affecting development of fresh agricultural products e-commerce

4.1.1. Consumers

The poverty alleviation by e-commerce is conducted by vast number of consumers. The actual effect of poverty alleviation is directly related to the participation of consumers. The number of consumers participate in poverty alleviation and whether they provide long-term support have a huge impact on the final effect. However, due to the poor publicity effect of e-commerce poverty alleviation, there is not a great response in the society, so consumers do not have a deep understanding of e-commerce poverty alleviation and its significance. At the same time, due to the lack of digging and publicizing the characteristics and value of agricultural products in poor areas, consumers do not pay attention to the unsalable agricultural products, which makes it difficult for consumers to feel the value of the agricultural products themselves [7]. As a result, many consumers only buy agricultural products for public benefit, which is difficult to maintain in the long term.

A few consumers who choose to buy online also have high requirements for "freshness" of products. Once the quality cannot meet their requirements, they will directly reduce the buyback on the platform and give up the original online buying habit. Therefore, in order to cultivate and strengthen consumers' online buying habits, it is necessary to provide better products and services to give them a good shopping

experience, so that consumers fully recognize and believe the convenience and safety of fresh agricultural products e-commerce [8, 9].

4.1.2. Agricultural products

At present rapid development on fresh agricultural products e-commerce also encountered a lot of quality problems, affecting the consumer propensity to buy on e-commerce platform to a large extent [1, 3]. Consumers ever dare to experience new products, now will choose brand agricultural products, to reduce the risk of trial and error, they will choose repeatedly buying brand with trust. High-quality agricultural products brands can not only dispel consumers' worries about the quality and service of online agricultural products, improve consumers' trust, but also help to enhance the value of agricultural products themselves.

Consumers generally have high requirements on the quality of agricultural products, and the key judgment of the quality of fresh agricultural products is whether to ensure the "fresh", so the logistics and distribution work has put forward stricter requirements [10, 11]. Because fresh agricultural products are difficult to preserve and easy to damage during transportation, if the delivery time is not guaranteed and the products cannot be delivered to consumers in time, they may face the problem of stale products, which will have a bad impact on consumers' purchasing experience. Therefore, the logistics distribution of fresh agricultural products will directly affect the quality of the final agricultural products in front of consumers, and then affect consumers' consumption feelings.

4.1.3. Government factors

At present, although the government has issued many policies to support the development of fresh agricultural products e-commerce, there is still no scientific and reasonable formulation of fresh agricultural products e-commerce legal provisions. Trading activities of e-commerce enterprise can be anywhere at any time in the market of our country, due to the flexibility of e-commerce, so inevitably there are some security risks, such as farm products involved in the process of intermediary business and transport logistics, etc., if these problems can't be solved properly, the development of e-commerce for fresh agricultural products will be hindered.

Because rural scientific and cultural level is relatively low, farmers have difficulty in the study of e-commerce knowledge and information technology. They basically remained the traditional offline mode of face-to-face transaction. Besides, they were unaware of e-commerce transactions and online purchasing knowledge, unwilling or even more resistant to this new trading mode [12]. Therefore, we should actively cultivate rural e-commerce talents, fully mobilize the enthusiasm of farmers, improve their knowledge and understanding of e-commerce, and help them realize the significance of developing fresh agricultural products e-commerce.

4.2. Current development status of fresh agricultural products e-commerce

There are many categories of fresh agricultural products on the Internet now, but few of them have their own brands. First, due to the lack of marketing concept, farmers just think that they can sell their own agricultural products, and do not realize the importance of product brand construction. To reduce production and processing costs, they simply pack agricultural products and sell them in the market, which is difficult to form brand effect, resulting in low price competitiveness and unable to effectively increase economic benefits. Second, fresh agricultural products are produced at small family scale, with quality of various

standard. Consumers can't distinguish whether the products with good or bad quality, which can affect the purchasing experience.

Although the construction of cold chain facilities in China is constantly improving, compared with developed countries, the actual effect is still weak, so the proportion in the transportation process is low. Fresh agricultural products have higher requirements for logistics distribution, which ensures consumers' convenience of purchase as well as ensuring the quality and freshness of products. The products are very easy to rot or damage in the process of transportation. Without a stable logistics, there is no guarantee to provide fresh products delivered home, thus affecting the consumer experience and purchase enthusiasm of agricultural products. To some extent, it has hindered the development of poverty alleviation through agricultural e-commerce.

At present, the transportation development in most poor areas is backward and the roads are not smooth, so it is difficult to build network facilities, which leads to the slow construction of rural Internet, blocked information source channels, slowing down the promotion of agricultural e-commerce poverty alleviation, and it is difficult to promote the overall development of rural areas. Due to the backward and imperfect network facilities in poor rural areas, farmers' concept and awareness of e-commerce development are relatively weak. Some farmers are skeptical of e-commerce as a new technology and are hard to trust. However, a few with e-commerce knowledge and marketing skills prefer to develop in cities, which leads to the scarcity of rural e-commerce and hinders the development of rural poverty alleviation e-commerce.

4.3. Measures to develop fresh agricultural products e-commerce

4.3.1. Establish brand strategy and promote characteristic agricultural products

Brand construction of agricultural products can effectively enhance the competitiveness of agricultural products. The construction strength of agricultural products brand should be increased, to identify local characteristics of agricultural products, making sure its most essential characteristics and highlights [13, 14]. Although some regions in China have realized the importance of the e-commerce brand of agricultural products and have started to build it, their supervision of the brand is insufficient, resulting in poor actual effect. So, implementation of effective regulatory measures should be taken together with the construction of agricultural products brand, to establish safety standards of agricultural product quality, serious attention should be taken for agricultural products with existent quality problems.

4.3.2. Strengthen standardization of agricultural products

Rural households should be organized according to towns and regions to form a more unified mode to produce standardized agricultural products; it is necessary to strengthen the standardization of quality management of agricultural products to better realize the standardization of agricultural products. In addition, local excellent varieties can also be selected for planting, to incorporate advantages of agricultural products with local characteristics for foreign sales, to open the international market. Agricultural experts can also be invited to provide systematic and correct planting guidance according to the actual development, to promote the standardized production of local agricultural products and enhance the brand image and market competitiveness of China's agricultural products.

4.3.3. Strengthen the training of rural e-commerce talents

On one hand, the spread of e-commerce knowledge in rural area should be strengthened, to help more farmers master the skills of computer. On the other hand, the local government should actively launch

training to poor farmer with certain e-commerce knowledge; At the same time, in accordance with the core requirements of the targeted poverty alleviation strategy, training of e-commerce poverty alleviation leaders, village-level information workers and cadres stationed in poor villages should be strengthened through open recruitment and assessment with appropriate policy preferences, so as to attract excellent high-quality e-commerce merchants to take root in rural areas and comprehensively improve the management and service level of e-commerce poverty alleviation.

5. Conclusions

In order to promote the comprehensive implementation of targeted poverty alleviation policies of agricultural products e-commerce in China, it is necessary to vigorously strengthen the monitoring and management of agricultural products quality and after-sales service, not only to ensure the quality of agricultural products themselves, but also to strengthen the service awareness of the platform and optimize consumer purchasing experience. Implementation of effective regulatory measures should be taken together with the construction of agricultural products brand, to establish safety standards of agricultural product quality. Meanwhile, serious attention should be taken for agricultural products with existent quality problems. It is necessary to strengthen the standardization of quality management of agricultural products to better realize the standardization of agricultural products. In accordance with the core requirements of the targeted poverty alleviation strategy, training of e-commerce poverty alleviation leaders, village-level information workers and cadres stationed in poor villages should be strengthened through open recruitment.

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