

Research on E-commerce Development of Agricultural Products in the Era of Big Data

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Abstract: With the development of science and technology and economy and the arrival of the big data era, the rapid development of e-commerce industry has enriched the methods and strategies of product marketing. E-commerce has brought opportunities to the development of agricultural economy. Characteristic agricultural products should make full use of this opportunity, actively develop, build and market around the Internet and the Internet of things, and establish a new marketing model of agricultural products in line with social reality, so as to improve farmers' income, promote rural economic development and achieve the goal of revitalizing the rural economy. Starting with the research on the development of e-commerce of characteristic agricultural products under the big data environment, this paper analyzes its role and current situation, and puts forward some suggestions on improving network infrastructure, cultivating e-commerce talents, establishing big data team, building agricultural product brand and expanding promotion channels, hoping to better complete development of e-commerce of characteristic agricultural products, so as to provide reference for relevant research.

1 INTRODUCTION

At present, e-commerce live broadcasting platform are playing an increasingly important role in promoting rural revitalization. The national "14th five year plan" and the long-term goal outline for 2035 proposes to promote the integrated development of rural primary, secondary and tertiary industries, extend the agricultural industrial chain, and develop distinctive modern rural industries to enrich the people, which brings opportunities for the integrated development of e-commerce e-platform and agricultural products.

1.1 Subject Diversification

With the advent of the big data era, more and more subjects join or create e-commerce systems. Individuals, intermediaries, enterprises and even government departments can become the main body of e-commerce for specific agricultural products, sales channels are becoming more and more abundant. Improve the acquisition and dissemination of product information through the Internet connection between the buyer and the seller. Some

banking applications, the official websites of insurance companies and the government's agricultural information websites began to link niche agricultural products and expand market access social capital (Cheng 2019).

1.2 Development Universalization

With the increase of the number of rural short video platform users, Internet access is also gradually increasing. It enriches the new model of agricultural e-commerce. Professional agricultural producers use massive online data to directly contact consumers through the Internet. The P2C model is extended, and new problems such as unbalanced supply of special agricultural products appear in the model. The lack of protection of consumers' rights and interests and a large number of one-time transactions hinder the sustainable development of P2C product e-commerce; in addition, all websites have enthusiastic Internet texts, mainly describing the disastrous situation in the disaster area and the stagnation of agricultural product sales (Li, Cong 2020). Finally, the article adds a purchase method, including not only the actual affected farmers, but also some negative enterprises as a means of marketing publicity. In the

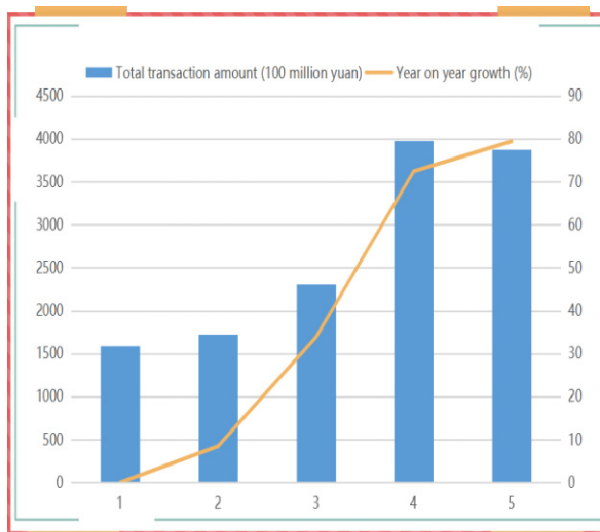


Figure 1: Total online retail transactions of agricultural products from 2016 to 2020

big data environment, using people's sympathy without considering moral factors is also a way of e-commerce for specific agricultural products.

1.3 Lack of Standardization

Handicraft farmers is still the main force of agricultural production, the producers of professional agricultural products are still individual producers judging from the current scale of agricultural production, The development path of e-commerce of agricultural products in China is essentially different from that of developed countries, mainly agricultural economy. Under the influence of historical factors, China's household contract responsibility system greatly stimulated the enthusiasm of farmers at that time, however, today it has exposed its shortcomings, the quality of this special agricultural product can not be guaranteed, and its sales in e-commerce are greatly limited. Compared with the highly standardized import of agricultural products, China's individual products lack competitiveness.

2 CURRENT PROBLEMS

From the current development situation, although e-commerce develops very rapidly in the big data environment and is full of prospects and challenges, there are still some difficulties in the development of e-commerce in rural areas. Next, the problems faced by e-commerce of agricultural products will be displayed in detail.

2.1 Page Setup Slow Development of Rural E-commerce

Although the development of our _ platform|our platform is in the stage of rapid development, most enterprises and individuals did not realize the importance of developing e-commerce platform and did not make full use of it (Ren 2020). Rural residents still insisted traditional shopping methods are not familiar with electronic payment procedures, and there are concerns about procurement activities. And traders' lack of good market reputation further limits the ability of skeptical consumers, Participate in procurement.

2.2 Poor Rural Infrastructure

At present, most remote rural and mountainous areas have underdeveloped networks, low communication network coverage, very unstable signals and few areas with hard roads, the traffic is difficult. Affect the development of rural logistics the shortage of hardware equipment has led to an increase in the cost of network sales network and express logistics services, this has led to the loss of the advantages of a convenient and efficient e-commerce platform. The development of e-commerce platform needs to attract technical talents through technical support. At present, there is a shortage of e-commerce professionals in China Most rural officials and university administrators lack economic, financial and online marketing skills. The lack of application experience of e-commerce platform seriously

restricts the development of e-commerce and agricultural product integration.

2.3 Weak Brand Awareness of Agricultural Products

Some farmers are still worried that their agricultural products will not be sold, so they will not consider expanding their scale, not to mention the trademark. The competitive advantage of specific agricultural products is particularly prominent in order to improve the efficiency of specific agricultural products and ensure the sustainable development of specific agricultural products, brands must be established. Generally speaking, the vast majority of farmers do not have a strong understanding of agricultural product trademarks, resulting in their agricultural products can not be out of control, prices fall, external consumers can not buy, and prices remain high (Wang 2019).

3 FEASIBILITY ANALYSIS

IT can be seen from the above problems that it is urgent and effective for rural areas to develop e-commerce, create characteristic agricultural product brands, introduce big data and combine them effectively. This chapter will explain the role of big data environment in the development of e-commerce for characteristic agricultural products.

3.1 Precise Positioning

Big data can provide technical support for market segmentation strategy and accurate customer base. Meeting customer needs is the main goal of marketing there is still valuable potential demand in the market any behavior of customers on the Internet will produce information, analyze the specific and potential needs of specific customers, and provide targeted marketing solutions. In addition, in the era of big data, it is more difficult for producers and farmers to obtain a large amount of customer information. Based on mining and integration, comprehensively analyze customer value, purchase trend, loyalty, microblog dynamics, personal preferences and social relations, recent concerns, transactions, etc. Carefully analyze the customer target group and study the internal needs of customers and the needs of customer groups for target products, so as to achieve accurate marketing objectives and improve marketing efficiency.

3.2 Cost Savings

Production and circulation are the basic costs of agricultural production and operation. Science and culture can reduce the production cost of agricultural products. Online social platforms and new media can reduce the sales cost of agricultural products. Use big data to understand, obtain and analyze the data shared by customers, so as to achieve the purpose of precision marketing. Compared with the traditional large-scale marketing, it has the characteristics of wide coverage and high frequency. Effectively save marketing costs and improve marketing efficiency. Use big data to carefully analyze the e-commerce market and customers, determine product sales, achieve clear objectives and positioning, simplify and adjust distribution strategies in time, and reduce marketing costs (Wang 2018). Growers must ensure fast and efficient marketing. Big data can understand customers in time and take up as much time as possible. In addition, the use of network platforms can reduce marketing costs. Make product advertising more diversified, increase sales channels and reduce marketing costs.

3.3 Dynamic Tuning

In the previous marketing model, agricultural producers passively adjusted product prices. However, with the advent of the data age, the chain of agricultural production from production to use has been greatly reduced, and the information will be transmitted in real time. Under the above conditions, the dynamic producer price regulation strategy can be greatly improved. The same product needs different pricing strategies and timely dynamic adjustment at different times and different market shares. In order to continuously attract customers, after the products are listed, manufacturers must quickly explore the market, improve brand awareness and occupy a certain market share. After analyzing the price ratio of big data, the low price sales strategy is adopted. In the relatively mature period of products, the brand value can be realized, the customer base is relatively stable and the market share is high. Data analysis shows that consumer demand elasticity is low, and manufacturers should adopt corresponding price rise strategies. Obtain certain sales profit; when the product enters the advanced stage, the company can start producing new and improved products, as well as other companies that have developed alternative products. Manufacturers must adopt price reduction strategy by analyzing big data. Producers must use big data to analyze other factors affecting the price of

agricultural products in real time, such as weather, diseases and pests, substitute price and supply-demand relationship, and track the subtle changes in the agricultural product market in real time. Forecast the price trend of agricultural products and update them in time; dynamically enable and adjust product pricing policies.

4 PATH EXPLORATION

The integration of e-commerce platform and characteristic agricultural products is an inevitable trend to promote rural economic development, and it is also a good catalyst for Rural Revitalization. Then, how to realize this idea and apply it to life, this chapter will discuss the effective ways of e-commerce development of characteristic agricultural products under the big data environment according to the previous analysis.

4.1 Improve Information Network Infrastructure

At present, although the Internet has been popularized, it has not been fully popularized in remote rural areas. Therefore, establishing a perfect e-commerce network and network platform is the primary task of developing e-commerce of agricultural products. At present, local residents have insufficient understanding of network technology and its application in e-commerce, which hinders the effective development of e-commerce. In this regard, state organs should increase funds for facility construction and speed up the network construction in remote areas. Increase infrastructure investment, improves the availability and economic benefits of e-commerce for agricultural products, and analyze the development trend of the current e-commerce market according to the actual needs of the market and consumers, correctly position products and ensure the sales channel of e-commerce products.

4.2 Cultivating E-commerce Talents of Agricultural Products

Rural development is backward, and people's use of information technology and e-commerce is not universal, which is an important factor restricting the development of e-commerce of agricultural products. We should actively introduce professional e-commerce talents to guide and train farmers, clarify the production and operation direction of local

agricultural products, guide and teach the methods and strategies of e-commerce operation, and cultivate their operation mode and technology application ability in combination with the local actual situation; colleges and universities should carry out relevant courses on network marketing of agricultural products, pay attention to the teaching of e-commerce content of agricultural products, increase and speed up the training of professional e-commerce service and construction talents of agricultural products, use the strength of professional technology and talents, speed up the construction of e-commerce platform of agricultural products, effectively create income for rural areas and promote the economic development of rural areas, Narrow the economic gap between regions.

4.3 Build Big Data Application Teams

In order to show the talent advantages of urban data development, we should actively carry out the universal mastery of rural information network skills. Knowledge publicity shall be carried out in various forms and talent team construction shall be carried out in many aspects. Superior leading departments should regularly select and send excellent agricultural information talents to the countryside; rural grassroots cadres should set an example and actively learn information knowledge; agricultural technology extension personnel and rural information workers should take the responsibility of information skills training for every household; leading enterprises in agricultural industrialization and large rural business entities should also take the initiative to improve their learning awareness through various network media, and teach information workers and network users at all levels to collect information, develop and utilize knowledge.

4.4 Create Characteristic Agricultural Products

Relevant data show that whether the product is a well-known brand is one of the factors affecting online consumers' purchase desire. In order to promote the popularity of agricultural products, producers and operators should pay attention to the brand construction of agricultural products, strengthen the market competitiveness of agricultural products, and promote the active and efficient development of online sales of agricultural products. Only by improving the brand awareness of agricultural products can they be loved by consumers. Consumer recognition is a prerequisite for products to occupy a

large market share. How to build a well-known brand of agricultural products requires the unity and cooperation of the government and agricultural product operators. The government should determine the scientific and reasonable brand development planning text. Tax reduction or exemption for agricultural enterprises or organizations applying for brand name declaration and product certification; attracts more and more agricultural enterprises to brand their products through incentive policies; strengthen the scientific and technological elements of agricultural products and carry out market promotion; Strengthen the management of trademark registration of agricultural products in the region and improve the brand protection awareness of agricultural product operators in the region. Through the above methods, continuously improve the popularity of agricultural products and improve the market competitiveness of agricultural products. Sellers of agricultural products should take certain measures to upgrade their brand image. Continuously improve the quality of agricultural products and lay a good foundation for brand building; have brand awareness and pay attention to brand publicity and protection; determine the target customer group, customize scientific and reasonable brand strategy and occupy market share; expand the scope of influence through brand publicity, and try to horizontally extend brand products and sub brands on the premise of considering factors such as consistent quality and relevant functions, so as to ensure the success of brand extension and expansion. The following table shows the brands of China's top ten characteristic agricultural products.

Table 1: Famous Agricultural Product Brands.

Top ten characteristic agricultural product brands in China	
Dong'e donkey hide gelatin	Laoganma chili sauce
Qiaqia melon seeds	Xinjiang red jube
Bairuiyuan medlar	Dayi Pu'er
Chu orange	Wujiang pickle
Zhongjing mushroom sauce	Panjin rice

4.5 Expand Channels for Agricultural Products

Agricultural products have the characteristics of regional differences, seasonality, fragility and

perishability, short storage time and so on. In the process of e-commerce development, we must ensure that its circulation channels are fast, accurate and convenient, which puts forward high requirements for logistics. Ensuring low cost and fast speed of logistics transportation are an important link in the development of e-commerce system. We should strengthen the construction of rural transportation, improve transportation, strengthen contact with the outside world and facilitate transportation.

5 CONCLUSION

With the deep development of the big data era, e-commerce will continue to become an important part of the economic market and have a profound impact on the development of the national economy. The emergence of e-commerce has shortened the trade distance, formed a new business model, and provided great convenience for enterprises and consumers. Therefore, in the face of the current e-commerce development of agricultural products, we must recognize the challenges and opportunities brought by development, face the challenges, dare to seize the opportunities, make use of the Internet platform, constantly strengthen the learning and training of our own professional ability, master the Internet technology, create characteristic agricultural products, and realize the commercialized and linked commerce development model, truly create economic benefits and achieve long-term sustainable development.

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