
Feasibility Study on Building a Mobile E-commerce platform for Fresh Agricultural Products in China under the Background of Internet Plus

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Abstract

With the rapid popularization of mobile Internet technology, the circulation of fresh agricultural products in China has entered the era of mobile E-commerce. This study adopted questionnaires and took the fresh agricultural products producers and consumers in an inland province as the research object. In view of the representative problems of “dull sale, difficult selling and expensive purchasing” in the process of the circulation of fresh agricultural products in China, the building of sales channels, cost control and consumer decision-making are studied. Besides, some policy suggestions on the feasibility of building mobile E-commerce platform for fresh agricultural products are put forward: the building of mobile E-commerce platform for fresh agricultural products requires the local government to strengthen organizational leadership and top-level design in a timely manner, improve the transmission mechanism of agricultural information intermediary, and perfect the organization of local agricultural information service. In this process, the role of local colleges and universities serving the local economy should be fully realized and the advantages of industry-university-research cooperation should be brought into play, so as to solve the problems existing in the building of the mobile E-commerce platform for fresh agricultural products, such as weak foundation of rural information service, poor access to farmers information, and difficulty in effectively meeting the demand for information.

Keywords: Internet plus, circulation of fresh agricultural products, mobile E-commerce

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INTRODUCTION

Mobile E-commerce refers to the innovative E-commerce model for various business activities. It carries out data transmission through wireless networks, and uses mobile terminals such as smart phones and tablet computers (Zou 2016). With the rapid popularization of mobile Internet technology, since Chinese government formally proposed the “Internet plus” action plan in March 2015 for the first time, “Internet plus modern agriculture” especially “rural E-commerce” have quickly become the new growth points of Chinese agriculture. China’s E-commerce of fresh agricultural products has also entered the era of mobile E-commerce, and has become an important breakthrough point for the rapid development of modern agriculture in China (Ji et al. 2013, Jin 2014 Liu et al. 2018, Wang et al. 2018). Under the background of rapid development of Internet plus, rapid transformation and upgrading of traditional industries and Internet plus after fusion, the approach to give full play to the intelligent, networked and

information-based advantages of mobile E-commerce platform by using the advanced mobile Internet technology, and to build a mobile E-commerce platform for fresh agricultural products that integrates traditional E-commerce, logistics, commerce, finance and other related enterprises, can be used for reference in solving the “double extrusion” from “price ceiling” and the continuously rising “cost floor” in China’s agricultural development, thus enhancing China’s agricultural sustainable development capability and realizing the modernization of agricultural production.



Fig. 1. Producer-consumer model



Fig. 2. Middleman model

ANALYSIS OF THE CIRCULATION MODEL OF FRESH AGRICULTURAL PRODUCTS UNDER THE BACKGROUND OF INTERNET PLUS MOBILE ENVIRONMENT

Analysis of Traditional Circulation Model of Fresh Agricultural Products

Traditional circulation model of fresh agricultural products

Restricted by objective conditions, the circulation of fresh agricultural products in China mainly adopts the traditional model, which is the most popular way for consumers to obtain fresh agricultural products. The traditional circulation process usually includes three parts: production, circulation and consumption:

Production: Production is the basis of circulation. At present, the production subject of Chinese fresh agricultural products is small in scale and large in number, and small acreage is not conducive to good interaction with the market, but also to the operation of the whole industry chain (Lu et al. 2016). In addition, most farmers are influenced by the local market demand in choosing the varieties and quantities of agricultural products. Producers usually make decisions on the basis of previous prices and personal experience. As a result, there is a shortage or surplus of fresh agricultural produce in a given period of time, which makes prices fluctuate considerably. In recent years, such phenomena as “low-priced cabbage” and “soybeans with sky-high price” are frequent, which are caused by the imbalance of seasonal fresh agricultural products production and market demand, and this is also closely related to farmers’ short-term blind production.

Sales: China’s domestic agricultural products sales model mainly includes the following two models: one is the producer based model. Under the background of small-scale production in rural areas, the traditional agricultural marketing channels are generally the direct

marketing channels for producers and consumers. Agricultural production is mostly a decentralized small-scale production of single household. In view of the small-scale market demand around the place of production, the agricultural products will be transported directly to the market of the place of origin after harvesting (Chen 2015).

The other is the middleman model, which mainly refers to the model that the producers of agricultural products circulate to the consumers through the middle link. At present, it mainly includes the following three business models: 1. “Chain supermarket + wholesale market + base + insurance commitment” model; 2. “Chain supermarket + base” model; 3. “Monopoly chain store + processing enterprise + base” model. On the whole, due to low organization and capital constraints and backward channel management concepts, the middlemen model is still in a relatively weak position in the circulation of fresh agricultural products (Wang et al. 2013).

Consumption: For ordinary consumers, the most common purchasing channels for fresh agricultural products are vegetable market, supermarkets, bazaars and other places. The proportion of consumers buying fresh produce via the Internet is not high.

Disadvantages of traditional circulation model of fresh agricultural products

At present, the main form of circulation of fresh agricultural products in China is the “small production and big market” circulation model with peasant households, but this model has some drawbacks. First, the channel is too long. The starting point of the marketing channel of the traditional fresh agricultural products is the producer, and the fresh agricultural products producers resell them to the local wholesalers for the sake of quick profits, and the wholesalers themselves bear the functions of the logistics providers

(He et al. 2014). Wholesalers buy fresh agricultural products from farmers and then wholesale them to retailers in various farmers' markets. Finally, retailers sell fresh produce to consumers. This process usually takes 4-5 channel lengths. The long channel brings a series of problems to producers, middlemen and consumers, and the most prominent one is the economic interests (Lu et al. 2016). The long marketing channel will rise the price of fresh agricultural products and lead to the loss of the economic interests of producers and consumers, and it is difficult for logistics wholesalers to maintain sufficient profit margins. At the same time, extra-long sales channels will not only cause serious problems in the process of circulation and deterioration of fresh agricultural products, and also lead fresh agricultural products at all levels of the market not to accurately collect agricultural products related transaction information and other issues. Secondly, there are too many members involved in. The number of marketing channels of traditional fresh agricultural products is too large, and the participation of these loose members has caused obstacles to the formation of the circulation effect of fresh agricultural products. As producers and consumers are mingled with various middlemen, they also lead to unbalanced distribution of interests and asymmetric information of fresh agricultural products (Zhang et al. 2017). Thirdly, the organizational functions of fresh agricultural products circulation channels need to be further improved. At present, the circulation model of fresh agricultural products in China is mainly realized through the intermediaries, which can not effectively eliminate all kinds of problems caused by excessive production and marketing links (Lin et al. 2015). Finally, the circulation area is limited. The sale of fresh agricultural products in China is limited by geographical restrictions, and the export quantity is limited, often resulting in frequent fresh agricultural products excess and shortages. In the traditional marketing model of fresh agricultural products, the producers of fresh agricultural products and the final sellers are at a disadvantage in the distribution of profits due to the excessive number of middlemen. This not only increases the circulation cost, reduces the circulation efficiency, but also reduces the farmer production, the supermarket sale enthusiasm, and the entire circulation system efficiency (Zhou 2017). The unsmooth circulation of fresh agricultural products results in an oversupply of agricultural products in the producing areas. At the same time, the limited market coverage also saliently affects the regional agricultural products supply and demand

balance, which is not conducive to the stability of agricultural production.

The Circulation Model of Fresh Agricultural Products Based on Mobile Internet Technology

With the rapid development of communication technology and network speed, mobile E-commerce is no longer a simple extension of E-commerce, and it has outstanding features compared with traditional E-commerce:

Flexible buying methods. With the help of mobile Internet trading platform, consumers can purchase goods flexibly, which can meet the needs of a wide range of personal consumption. Modular mobile application function and interface not only allow consumers to complete the selection and payment of products using a more simple and more flexible way, but also sets personalized information format according to their own preferences, that is, consumers control the information and services of required products by their own preferences (Karimov et al. 2014). At the same time, the providers of mobile E-commerce product information can also give better play to the initiative and provide customized and personalized services for more types of customers.

Convenient and efficient exchange of information. The development of mobile technology brings unparalleled advantages compared with the traditional PC era, and has produced many new technologies and new patterns. Consumers can obtain the trading information of agricultural products at anytime and anywhere through mobile E-commerce. Mobile intelligent terminals can accurately locate themselves, collect nearby things and information, and realize intelligent perception. Mobile intelligent terminals can quickly exchange information on geographical location with users. The two-dimensional code identification technology eliminates manual information input, and makes product information acquisition more convenient.

Mobile payment advantage. The mobile payment in the E-commerce environment means that the unit or individual sends the payment instructions directly or indirectly to the banking financial institutions via the mobile equipment, and completes the payment of money and the transfer of funds (Park et al. 2012). With the continuous improvement and development of mobile Internet technology, mobile payment has the advantages of mobility, timeliness, individuality, customization, and integration.

The convenience of mobile payment and the supplement of the existing payment system. Compared with the developed countries, China's commercial credit system is still not perfect, leading to low bank card usage in China, which also provides opportunities to the mobile terminal.

The rapid development of mobile access areas. Mobile access is the basic means for mobile users to access Internet and access information and services through mobile networks wireless application protocol (WAP), mobile IP, Bluetooth, general packet radio service technology (GPRS), mobile positioning system, third generation (3G) and fourth generation (4G) mobile communication systems by using mobile terminal devices. The wide range of mobile Internet coverage and the high-speed exchange of information in the mobile network enable consumers to complete the trading activities of fresh agricultural products at any time anywhere.

Expanding user size and consumer market. The data released by the Ministry of Industry and Information Technology show that as of February 2017, China mobile Internet users has reached 1.12 billion, the number of users access the Internet by mobile phone is close to 1.06 billion, and the penetration rate of mobile phone users reaches 79.3% (MITT 2017). The number of smart phones as mobile E-commerce support devices has been far higher than that of PCs as a traditional E-commerce support device. From the group of mobile Internet users, mobile Internet users basically include the high-end users in the consumer market with the ability to online shopping.

The Feasibility of Building the Mobile E-commerce Platform for Fresh Agricultural Products in China under the Background of Internet Plus

In recent years, China's domestic fresh food prices have increased faster compared to consumer prices. Therefore, how to use mobile E-commerce platform featuring intelligence, networking and informatization to build a mobile E-commerce platform for fresh agricultural products which integrates traditional E-commerce, logistics, commerce, finance and other related enterprises can be used for reference to solve the problem of the circulation of agricultural products in China, and to promote the sustainable development of agriculture and realize the agricultural modernization.

Building foundation

E-commerce platform is an interactive business information system, which provides all users with

comprehensive static and dynamic information. Mobile E-commerce, as an innovative E-commerce way of realizing commodity transaction by means of mobile Internet technology, has made full use of and exploited many advantages of mobile wireless network technology (Zou 2016).

First of all, with the development of agricultural industrialization and rapid improvement of productivity, agricultural production needs a broader consumer market to support. Secondly, China governments at all levels have made it clear that in the next few years, they will further strengthen the building of network infrastructure, improve network access rate, in order to increase the E-commerce support, also to provide the necessary conditions for the development of mobile E-commerce for fresh agricultural products.

Building conditions

The popularity of mobile network terminals has promoted the online transactions of agricultural products. In recent years, the popularity of mobile devices, such as smart phones, tablet computers and other mobile electronic devices, the popularity and development speed of mobile networks are surprising. It also brings new user habits and consumption patterns, and consumers are becoming more and more accepting of mobile networks.

APP technology matures with each passing day. With the rapid development of mobile technology in the information age and the maturity of mobile E-commerce technology, the speed of accessing to information of fresh agricultural products is more timely, accurate and fast. As a third party application program of mobile electronic devices, APP technology has powerfully changed the way consumers using traditional E-commerce. With the use of APP technology to develop mobile devices platform client, coupled with the gradual maturity of the third party mobile payment service, the prospect of mobile E-commerce for fresh agricultural products is wider than that of PC clients.

Mobile E-commerce has great potential. Mobile E-commerce has great potential and the market needs to be tapped. First of all, consumer spending patterns are shifting to the mobile Internet trading model. Secondly, the search and click rate of advertising from mobile devices is high, which can bring more benefits to participants in the circulation of fresh agricultural products.

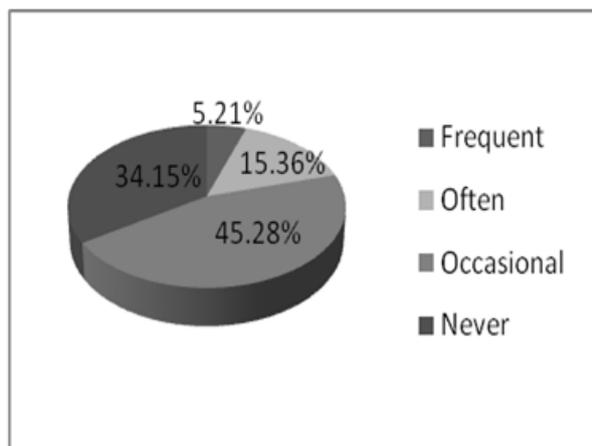


Fig. 3. Network-using frequency of producers and sellers of fresh agricultural products

RESEARCH ON THE CIRCULATION OF FRESH AGRICULTURAL PRODUCTS UNDER THE BACKGROUND OF INTERNET PLUS

The study was conducted from August 2016 to December 2016 in the first visit to the fresh agricultural producers, sellers and ordinary consumers of A, H, J, L and Z cities in a Chinese inland province. On the basis of the first survey, the questionnaire was revised, and from January 2017 to March 2017, stratified sampling and random sampling were combined to questionnaires and interviews. A total of 880 questionnaires were sent out and 858 were recovered, among which 817 were valid, accounting for 92.84% of the total questionnaires issued.

Investigation and Research on Producers and Sellers of Fresh Agricultural Products

Frequency of network-using

As shown in **Fig. 3**, the producers and sellers of fresh agricultural products surfing the Internet occasionally make up 45.28%, and 34.15% of them never use the internet. And those with more and regular Internet access account for only 20.57%. It indicates that the impact of the network on producers and sellers is relatively weak. The reasons may be that the level of informatization in rural China is not high, the infrastructure is weak, and the knowledge level of farmers is limited.

Tools accessing to the Internet

As shown in **Fig. 4**, the producers and sellers of fresh agricultural products account for 61.23% of the total with Internet access through computers, 25.26% by mobile and 13.51% by others. This shows that although the popularity of mobile phones, tablet PCs and other

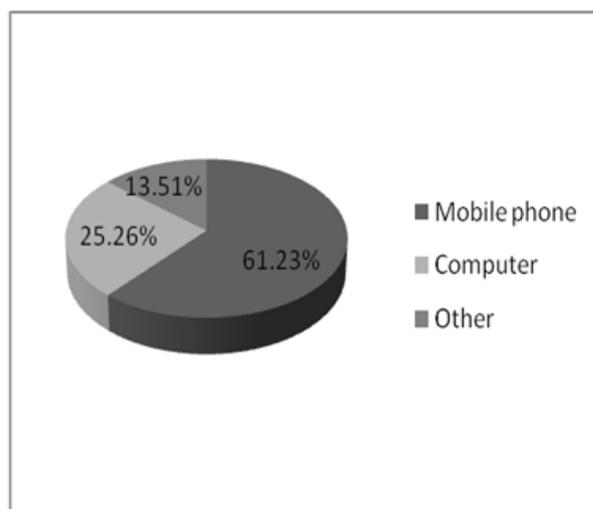


Fig. 4. Tools of producers and sellers of fresh agricultural products accessing to the Internet

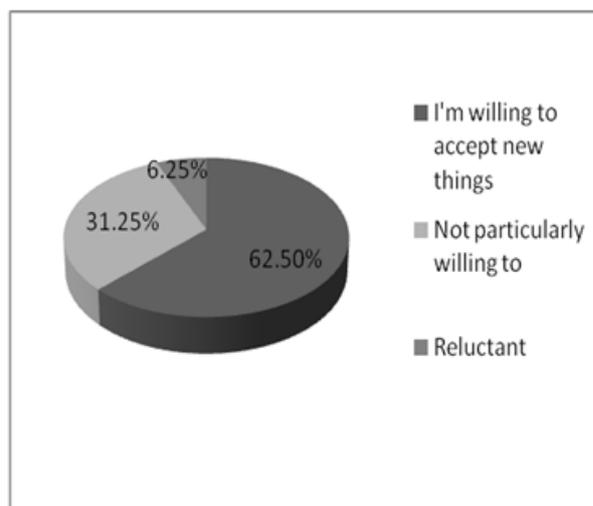


Fig. 5. Acceptance of selling agricultural products online by fresh agricultural products producers and sellers

mobile terminals continue to improve, the popularity of the rural market is not very high, and there is a big gap with the city. The reason may be the complex operation of mobile terminal network services, the relatively high cost of use, and the difference in usage habits.

Acceptance of selling agricultural products online

As shown in **Fig. 5**, 62.5% of producers and sellers of fresh agricultural products clearly express their willingness to accept sales online. It indicates that with the continuous upgrading of science and technology, most people are relatively easy to accept new things, as long as there is a proper platform, the use of mobile terminals to sell fresh agricultural products is highly feasible.

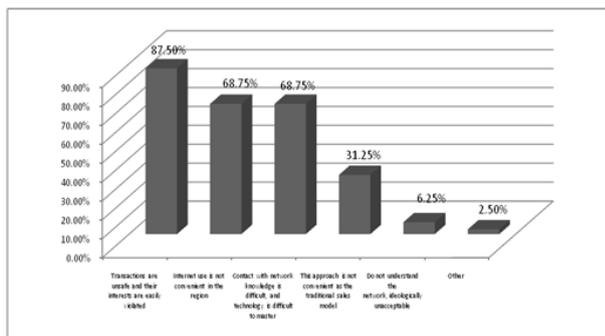


Fig. 6. Concerns

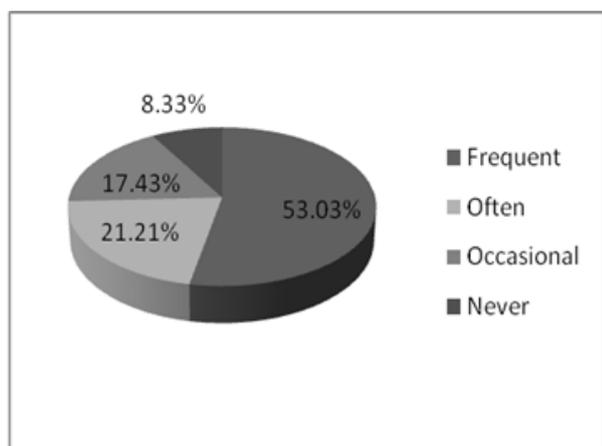


Fig. 7. Frequency of network-using of consumers

The biggest concern about selling agricultural products using mobile Internet trading platforms

As shown in Fig. 6, as for the mobile E-commerce online trading platform to sell agricultural products, the main concerns of fresh agricultural products producers and sellers are the transaction safety, and inconvenient network locally, difficulty in mastering network technology.

Survey of Consumers of Fresh Agricultural Products

Frequency of network-using

As shown in Fig. 7, more than half of the consumers have frequently access to the Internet, nearly 20% of the consumers often surf the Internet, and only 8% of the consumers said they never use the Internet. This shows that Internet use has become an essential part of everyday life for Chinese consumers.

Tools accessing to the Internet

As shown in Fig. 8, 55.12% of consumers use mobile phones to access the Internet, and 33.07% use computers to access the internet. With the popularity of smart phones and wireless WiFi and 4G networks, Chinese consumers' Internet access has changed.

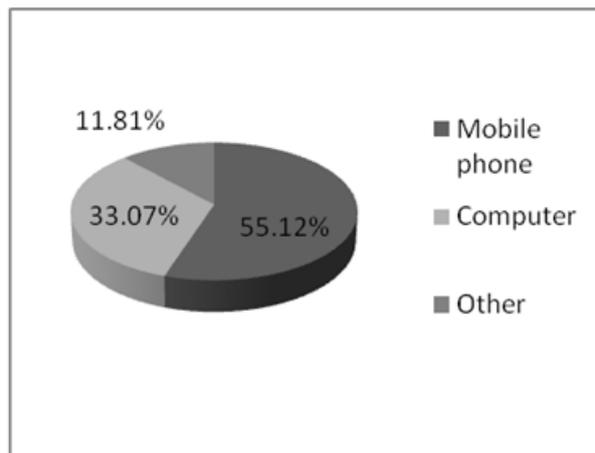


Fig. 8. Tools of consumers accessing to the Internet

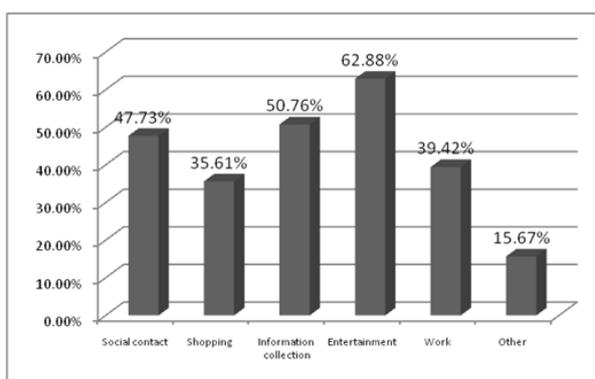


Fig. 9. Purpose of surfing the Internet of consumers

Mobile terminals, such as mobile phones, are gradually replacing computers as the main Internet access tools.

Purposes

As shown in Fig. 9, the purpose of Internet of consumers in turn is entertainment, information collection, social contact, work and shopping. It is important to notice that information collection comes in the second place, second only to entertainment. It shows that the information source of consumers is more and more dependent on the Internet when they make decisions on purchasing.

Access to relevant information about agricultural products

Fig. 10 shows that the most important source of information about agricultural products for consumers is the internet, over the traditional TV, broadcast, newspapers and magazines, or even peer recommendations. It indicates that Internet information, especially the information transmitted by the mobile Internet, has become an important factor influencing consumers' implementation of fresh

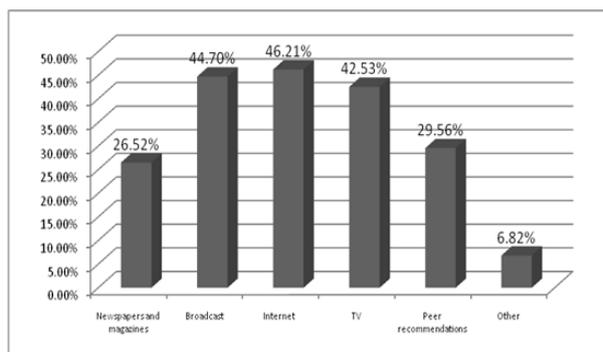


Fig. 10. Access to relevant information about agricultural products

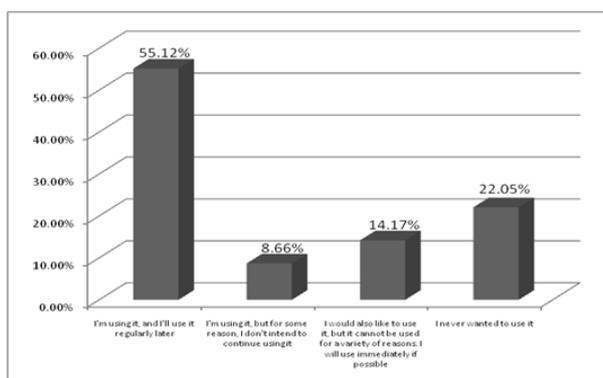


Fig. 11. Consumer attitudes towards online shopping (E-commerce)

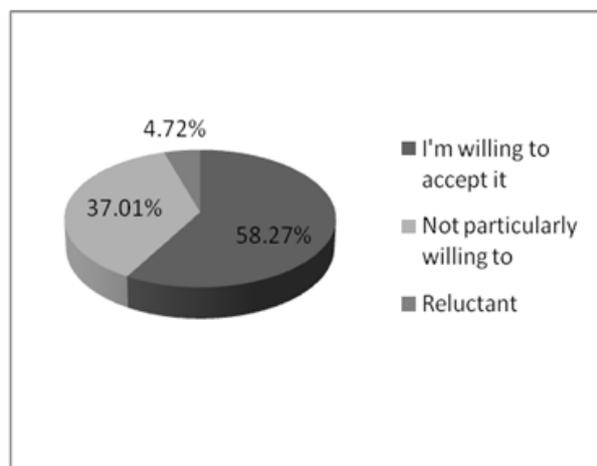


Fig. 12. Acceptance of consumers for buying fresh agricultural products online

agricultural products purchase behavior, because of its rapid spread, wide coverage, two-way interaction etc.

Attitude towards online shopping

As shown in Fig. 11, 55.12% of the consumers are using it and will continue to use the Internet for shopping activities in the future, and 14.17% of people would like to use it, but they cannot use for some reason. It indicates that in the network era, most

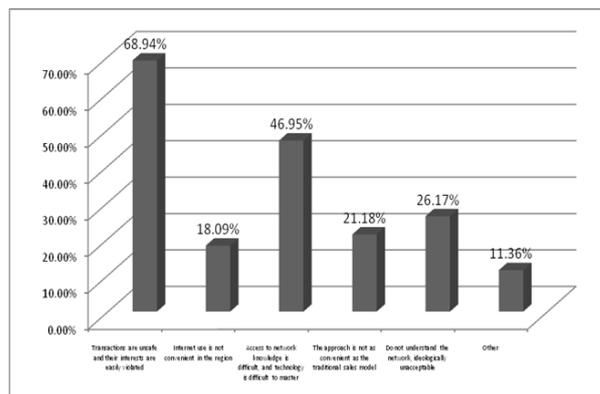


Fig. 13. The main reasons affecting consumers to use mobile E-commerce platform to buy fresh agricultural products

consumers have been able to accept E-commerce as a way of shopping.

Acceptance of buying fresh agricultural products online

As shown in Fig. 12, 58.27% of consumers are willing to accept new things, will consider buying fresh agricultural products on the Internet, and while those with neutral attitude account for 37.01%. Only 4.72% of consumers are reluctant. This shows that the vast majority of consumers are acceptable to buy fresh agricultural products through the mobile Internet platform. In other words, fresh agricultural producers and sellers can use the mobile platform to start related sales activities.

The main reasons affecting consumers to use mobile e-commerce platform to buy fresh agricultural products

As shown in Fig. 13, the main reason affecting consumers' use of mobile E-commerce online trading platform to buy fresh produce is the concern about the security of online transactions and the convenience of purchasing consumption. In addition, consumers themselves do not understand the mobile network technology, which also affects the choice of consumers.

Purchasing channels

As shown in Fig. 14, the channels for consumers to buy fresh products are bazaar, supermarket, network and other. As a result of the technical, security, aging, price, quality and other factors, for fresh agricultural products and other special goods, online shopping is not the mainstream. The reason may be that the E-commerce of agricultural products in China has just started in recent years, the related technologies are not yet mature, and the consumption habits of fresh agricultural products still tend to be the traditional

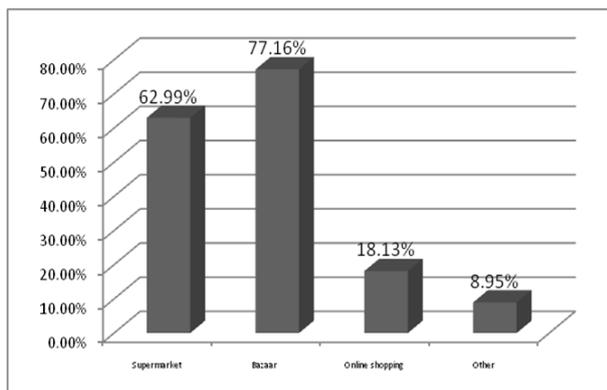


Fig. 14. Channels for buying fresh agricultural products

model. But nearly 20% of consumers are willing to buy fresh agricultural products via the Internet.

SUMMARY AND POLICY RECOMMENDATION

Summary

About the producers and sellers

China's rural network infrastructure is still lagging behind. In recent years, with the strong support of all levels of government and related policies, the building of rural network infrastructure has been greatly improved. However, the development of network infrastructure in China's rural areas is still slow, which restricts the development of agricultural mobile E-commerce. According to the research data, due to the lag of rural China network infrastructure building, in the survey, and parts of prosumers and consumers of fresh agricultural products are limited to the wired network access. As a result, although many farmers have the desire to carry out sales activities with the help of E-commerce platform for agricultural products, they can't connect to the network because of the restrictions of network infrastructure, and the computer equipment can only be shelved. It greatly restricts the access to the latest agricultural information (such as prices of agricultural products, sales quotations, etc.) by a considerable number of farmers. Due to the relatively closed information, farmers can't really understand the market demand for fresh agricultural products. They can only use traditional agricultural means of production and marketing, by means of their own transportation or through various intermediary. This leads to higher sales costs and poor sales channels, which limits the smoothness of fresh agricultural products circulation.

Chinese farmers are lack of knowledge about mobile E-commerce. Most of the trading subjects of fresh

agricultural products are farmers whose participation consciousness and ability directly affect the choice of the model of fresh agricultural products trading. Since the educational level of rural users is generally limited, especially for mobile E-commerce, as a new and emerging model of agricultural products trading, farmers know little about it. Many regional farmers who have realized the coverage of wireless networks can't effectively realize the online transaction of fresh agricultural products because they do not understand the basic methods of application. The lack of knowledge about mobile E-commerce in the production and marketing of fresh agricultural products makes it difficult for the transaction to proceed normally. Especially in recent years, the problem of "hollowing out" in China's rural areas is salient, and the outflow of young and middle-aged labor force in rural areas has made this problem even more prominent.

Fresh agricultural products have the characteristics of seasonality and difficult preservation, limiting the circulation of fresh agricultural products. The sales channels of fresh agricultural products are more complicated because of their own characteristics. Due to the external natural conditions, the output is unstable. This is also one of the main reasons that restrict the production of fresh agricultural products in china.

Farmers have weak innovative consciousness. The peasant consciousness that has lasted for thousands of years still exists in China, which results in a large part of farmers' lack of creative consciousness and low subjective initiative. Ideological cognition determines people's behavior, and the backward and outdated ideas of the peasants greatly influence their initiative in accepting new things. Most of the farmers are satisfied with the existing state of affairs and reluctant to move forward, with deep-rooted mentality of "waiting for", "relying on" and "asking for". Lack of awareness of crisis and sense of responsibility and outmoded ideas have led many farmers to be reluctant to accept new things, and also limited the development of mobile E-commerce for fresh agricultural products.

About the consumers

Concerns about the authenticity of commodity information on the trading platform. The authenticity of the information of the fresh agricultural products related to the E-commerce platform affects the consumer's decision to purchase agricultural products. With the vigorous support of the government, the agricultural informatization has developed rapidly, and

the E-commerce model of agricultural products has gradually been accepted by the majority of consumers. But all sorts of problems are springing up. For example, in the use of E-commerce platform for fresh agricultural products trading, the products are displayed in pictures as the main display model rather than the traditional display in kind. When consumers first contact the E-commerce model of fresh agricultural products, they can hardly adapt to the trading model of buying fresh agricultural products only according to the pictures (virtual product information).

The traditional circulation model of agricultural products is still the mainstream. At present, in addition to cotton and grain, the circulation model for most of the fresh agricultural products taking wholesale or trade market as the major carrier, farmers, middlemen and processing enterprises as the marketing subjects, and the original product and the initial processing product as the marketing object is basically formed. Especially in some rural areas with backward network infrastructure, the E-commerce platform for agricultural products is also backward, the traditional circulation model of fresh agricultural products is still the main means of connecting producers and consumers, these also lead to the imperfect market system, unimpeded market information, high cost of market transaction, low grade of product quality of the circulation models of fresh agricultural products in China. The direct consequence is that the circulation cost of fresh agricultural products is too high, which directly increases the purchasing cost of consumers.

Fresh preservation in the circulation of fresh agricultural products. At this stage, the main problem affecting the use of mobile E-commerce in fresh agricultural products is the preservation in the circulation process. As China's agricultural infrastructure is relatively backward, the building of related logistics facilities is saliently lagging behind, together with the characteristics of fresh agricultural products, resulting in lack of standardization of fresh agricultural products in the process of packing and handling. Especially when cold chain systems are inadequate and refrigerated transport is lacking, the lack of fresh-keeping technology of fresh agricultural products causes great losses in the process of transportation of fresh agricultural products, and affects the popularization of the model.

Possible Problems in Building a Mobile E-commerce Platform for Fresh Agricultural Products

The main participants in the building of fresh agricultural products: fresh agricultural producers, sellers and consumers are researched. In the process of building mobile E-commerce platform for fresh agricultural products, there are still some problems that can not be ignored:

The imperfect credit mechanism. Due to the characteristics of fresh agricultural products, and the lack of effective supervision and strict system at this stage, the credit mechanism of both sides of the transaction is imperfect (Ogonowskia et al. 2014), for both sides of the transaction of fresh agricultural products selling on mobile e-business platform, it is difficult to successfully complete the transaction activities.

Stability of product quality. Due to the characteristics of fresh agricultural products, the two sides usually can't form a unified standard of product quality, or because of subjective and objective reasons, it can't guarantee the stability of the quality of fresh agricultural products, which also increases the difficulty of online trading of agricultural products.

Information asymmetry. Although using mobile Internet technology, to some extent, reduces the problem of asymmetric information in the process of fresh agricultural products trading, it can't realize efficient analysis and process of market information. The problem of information asymmetry still exists.

Acceptance of innovative trading patterns by rural users. After the completion of the platform building, we should take full account of the characteristics of the platform users, especially of the rural users, focus on strengthening technical training for rural users so as to reduce the user's awareness of the risk of fresh agricultural mobile E-commerce platform as much as possible (Park et al. 2012), increase the acceptance of mobile E-commerce platform for fresh agricultural products, and develop their habits as soon as possible.

Countermeasures and Suggestions

Government

Infrastructure building in rural areas shall be increased to ensure the safety of mobile E-commerce platform operations. Premier Li Keqiang said what the government should do in the future is to provide a fair legal environment for operators to compete. As for China, we should strengthen infrastructure building

and increase the speed. Especially for the vast rural areas with low coverage of China's cable network, this is even more necessary. At present, China's 4G network has achieved continuous coverage of provinces, cities and counties, and extends to some townships and rural areas. But the high cost of using 4G networks and other problems have left farmers unable to make full use of wireless networks. In response to this problem, Chinese governments may promote network operators to increase investment in the rural market through relevant policies, provide targeted subsidies to farmers engaged in agricultural mobile transaction business through the reduction of rural Internet tariff standards or by government subsidies, and then realize "corner overtaking" in the transaction model of fresh agricultural products so that the producers and sellers of fresh agricultural products can use the wireless network directly instead of the traditional wired network, laying the foundation for the building of mobile E-commerce platform for fresh agricultural products and the development of rural informatization in China. Aiming at the safety of mobile E-commerce platform for fresh agricultural products, the government should improve the laws and regulations on the emerging mobile E-commerce platform, and strengthen the supervision mechanism for the network platform, and publicize the objective and positive mobile E-commerce platform transaction information, in order to enhance the confidence of farmers, especially of consumers in the mobile E-commerce platform for fresh agricultural products.

The relevant support policies for farmers shall be introduced to promote the building of mobile E-commerce platform and the popularization and application of smart phones. For farmers, appropriate economic subsidies and other forms of support policies shall be provided and developed, for example, providing direct financial subsidy to farmers employing mobile E-commerce platform to sell fresh agricultural products. The government should also implement the policy of "smart phone going to the countryside", which is similar to the policy of "home appliances going to the countryside", to improve the popularity of smart phones in the rural areas, and encourage smart phone manufacturers to increase the tilt of the rural market so that farmers buy smart phone products at a lower cost. At the same time, telecom operators should be urged to set up a special mobile Internet charging system for the rural market, in order to reduce the use cost of farmers' mobile internet.

Combined with the current innovation and entrepreneurial environment, policies to encourage college students to make special innovations and start their own businesses in rural areas shall be formulated and promulgated. For college students especially professional related college students, the relevant policies shall be formulated and promulgated to support them to go to the countryside for practical activities, in particular, to start independent entrepreneurship in the rural areas. For example, the government can set up a special venture fund to support college students with insufficient capital for loans, and directly reduce the threshold for college students from the industrial and commercial administration, or start with tax policies and implement preferential policies such as tax breaks for graduates who are self-employed, so that college students are willing to go to the countryside to help farmers solve the practical problems in the process of using mobile E-commerce platform for fresh agricultural products. At the same time, it can realize the double promotion of students' practice level and farmers' network technical level.

Rural areas

Give full play to the functions of village committees and village cadres. Popularize basic network knowledge to farmers and promote network thinking through the grass-roots authorities of rural China. Take the poster and leaflets and other traditional methods to strengthen the publicity penetration of mobile E-commerce concept in rural areas, in order to deepen the understanding and trust of farmers on mobile E-commerce. Through the combination of the village committee and the university, attract students to volunteer in the countryside, popularize the network knowledge for the farmers, and make them accept the new sales model more quickly.

Establish agricultural cooperatives, to build an intermediate bridge between producers and consumers. The main purpose of establishing agricultural cooperatives is to collect relevant market information in a timely manner and feed back to the farmers. Secondly, give full play to the mutual aid function of cooperatives. In the case where most farmers have less network skills, online orders can be collected directly through cooperatives to achieve centralized procurement of agricultural products in the region and unified delivery of orders. Orders shall be placed before delivery to effectively reduce the operational risks of farmers.

In rural areas, agricultural products information exchange platform should be set up to increase

communication among farmers. The E-commerce platform for agricultural products shall be promoted to enable the shipping of fresh agricultural products from the traditional market to the mobile E-commerce platform. In addition, the exchange of producers and sellers of fresh agricultural products should be strengthened so that they can exchange various information at any time and place. In particular, farmers' understanding of the market information of fresh agricultural products and control ability of market demand should be strengthened.

Colleges and universities

Strengthen the propaganda of college students' participation in practical activities, and establish and perfect the practice system of college students and local rural areas. At present, the university education model causes the university students' lack of practice ability. Their knowledge is limited to textbooks and is difficult to apply in real life. Schools should strengthen their support and encouragement for students to participate in practical activities, open up the countryside as a practice base for colleges and universities and encourage students to go to the countryside to practice. Through the practice of students, the ideas and knowledge of informatization, mobility and networking are transmitted to farmers, so that college students can be used as a bridge for the transfer of new technologies, new ideas and new patterns. While promoting the practical ability of college students, they can contribute to the building of new countryside.

Encourage university students to start their business in rural areas and provide relevant support for their entrepreneurship. The university shall hold special competitions for college students in rural areas to attract more students to pay attention to the problem of agricultural development; set up a special venture fund

project to provide appropriate financial support to college students; and establish rural entrepreneurship incubation centers for college students to provide necessary technical guidance for related projects.

FUTURE STUDIES

Based on the background of rapid development of "Internet plus" economic form in China, through the investigation on the main participants of fresh agricultural products circulation from 5 cities in a certain Chinese inland province, the representative problems existing in the process of circulation of fresh agricultural products in China were studied from the aspects of sales channel building, cost control and consumer decision-making, and some policy suggestions on the feasibility of the building of mobile E-commerce platform for fresh agricultural products were put forward. However, in the course of the study, no model was constructed to simulate the influence path of Chinese consumers on the acceptance intention of the mobile E-commerce platform for fresh agricultural products. Therefore, the technology acceptance model (TAM) may be used in the future studies for the deeper study of the trading models of the mobile E-commerce platform of fresh agricultural products, a new model of fresh agricultural products trading to accurately grasp the characteristics of consumer behavior of fresh agricultural products. In addition, the sample of this study is mainly from an inland province of China. In the future research, it will be helpful for the further research on the building of mobile E-commerce platform for China's fresh agricultural products in the future if the factors affecting the circulation of fresh agricultural products in China can be taken into fully account, the relevant data of China's economically developed coastal areas in eastern China are added to the sample, and a multi-dimensional theoretical framework and research model is built.

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