Analysis of Mobile E-commerce Operating Mode of "Agricultural Products" and Research on Development Strategy

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Abstract: The application of e-commerce has opened up sales for agricultural products and obtained remarkable achievements. As a new mode of e-commerce, mobile commerce is more suitable for being applied to the sales of agricultural products because it brings more convenience to farmers to carry out e-commerce and enjoys promising application in the sales of agricultural products.

1. Introduction

The progress of economic globalization has sent agricultural products into strong competition due to the introduction of foreign agricultural products. Therefore, how to develop superior agriculture, increase farmers' incomes, and develop the fragile agricultural economy has become an urgent issue that receives increasing attentions. At present, there is a big gap in the quality and price of agricultural products between China and developed countries, of which the most important reason is the serious defects in the sales of agricultural products. China is and agricultural power with large quantities and different types of sales of agricultural products. However, the overall sales of agricultural product are in low efficiency and the circulation impeded, which are not conducive to the development of China's agricultural production, processing and related industries.

2. Application Status of E-commerce in Sales of Agricultural Products

2.1 Establishment of Agricultural E-commerce Platform

In April 2006, the Ministry of Commerce of the People's Republic of China launched the "Rural Business Information Service Project", which aims to establish "New Rural Business Network" to provide farmers with real-time information about relevant policies, and the supply-demand of rural commodities, and offer consultation as well as online supply-demand connection through public information services. Over the past five years, the construction of New Rural Business Network has acquired initial achievements. In addition, all provinces and cities have built their own e-commerce platforms, such as Guangxi Agricultural Information Network, Guangxi Agricultural Products Trade Network, etc. These e-commerce platforms provide a large number of information on supply and purchase of agricultural products, which allow users to post supply-demand information or apply to

establish their own online stores as long as registering an account.

2.2 The online production and sales connection platform for agricultural products has made prominent progress

Since the second half of 2006, the New Rural Business Network has organized various online agricultural products sales and marketing connection meetings, special online connection of featured agricultural products, emergency connection and normalized purchase and sales services, which created effective connection services for various kinds of agricultural products in 1400 counties across China, and effectively supported some farmers solve the problem of "hard selling" and "difficult purchase".

Based on the production and marketing connection platform for agricultural products, farmers can release supply information in corresponding province platform and know the latest purchase information. This platform helps agricultural product producers and sellers to open up markets, supports the expansion of sales channels, and guarantees stable market circulation of agricultural products.

3. Characteristics of mobile commerce and limitations of traditional e-commerce

Mobile commerce refers to a new e-commerce model that conducts business operations by means of wireless network environments and through using mobile terminals such as smartphones, PDAs, and notebook computers. The rapid promotion of 3G services have popularized smartphones and tablets so that more and more users tend to search products, go online shopping and do some auxiliary purchases through mobile devices. Mobile shopping in 2011 was almost equivalent to smartphone shopping. As people move from feature phones to smartphones, they will take full advantage of the device's capabilities to engage in more mobile activities, including mobile purchases. Future development measures As shown in Figure 1.
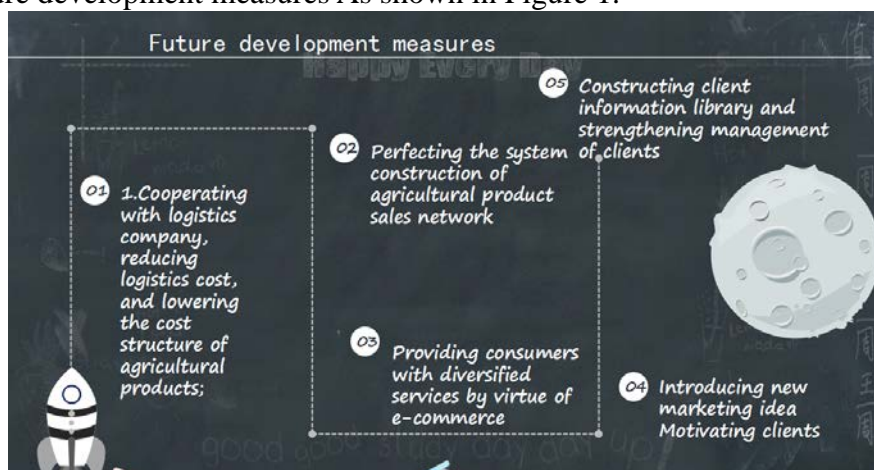

Figure 1 development measures

3.1 Characteristics making mobile commerce different from traditional e-commerce

Mobility: Mobile commerce is also a mode of e-commerce, but unlike traditional e-commerce that users are limited to optical cables or access points, the users of mobile commerce can access the Internet and conduct e-commerce activities as long as there are wireless communication devices and network systems.

Flexibility: Instead of being limited by location or time, mobile commerce allows users to

acquire the latest business consultation and information wherever mobile communication is covered.

3.2 Limitations of applying traditional e-commerce in the sales of Nongjiale

With the development of information services, e-commerce has brought a better environment and conditions for the sales of agricultural products, so that agricultural products transform from sales in traditional market sales to e-commerce market. E-commerce has generated more channels for the sales of agricultural products, and has achieved gratifying performance in practice. Despite this, there are still certain limitations in the development of traditional e-commerce, and its application prospects are shown in Figure2.

Future2 Application Prospects

On the one hand, the proportion of rural netizens in China are few, and farmers' lack of computer and network skills is an important obstacle to the e-commerce development of China's agricultural products sales. For farmers, only a very small number of them own computer personal computer and most farmers do not know how to operate computers, which, to some extent, affected the implementation of e-commerce of agricultural products.

On the other hand, although traditional e-commerce has advantage of 24 hours online, due to the limitation of fiber cable and access point, the information acquisition and release must be completed through a computer. However, most farmers spend time on farmland than on traditional e-commerce activities.

4. Analysis of applying mobile commerce in the sales of Nongjiale

The infrastructure for accessing the network through computers is still scarce in rural areas, which influenced the implementation of traditional e-commerce activities. Of course, mobile commerce is not the same as a business activity that merely uses smartphones as terminals. However, considering the number of smartphones owned by farmers, to know the latest market supply and demand information about agricultural products, guide production and engage in business activities through smartphone is undoubtedly the best choice for mobile commerce.

4.1 Feasibility analysis of implementing rural mobile commerce market that takes smartphone as terminal

According to the latest statistics of *The 29th Statistical Report on Internet Development in China* released by China Internet Network Information Center in 2012, the popularity of smartphones in rural areas is much higher than that of computers, and the number of smartphone users in rural areas is about 97 million. With the popularization of smartphones and generalization of 3G services, mobile Internet access has been preferred by more farmers, and becomes an important means of implementing mobile e-commerce. The penetration rate of mobile Internet access in rural areas is relatively high with promising market prospects, which are all favorable conditions for the implementation of mobile e-commerce. Hunan, as a pilot province for mobile e-commerce, has begun to build a rural e-commerce industry chain since 2008 and obtained remarkable achievements. It has initially realized the fund collection based on dedicated terminal and the logistics distribution of industrial products to villages as well as agricultural products to cities.

At present, Hunan is equipped with the network system and wireless communication needed for implementing mobile commerce, and there are successful cases for reference, so the implementation of mobile commerce in rural areas is completely feasible. The data analysis is shown in Future . 3. By taking smartphone as a network access terminal, a new system covering the modern rural circulation market will be built, which can promote agricultural products to step out, realize the effective transmission of information, and promote the transactions of agricultural products. The development of rural mobile e-commerce benefits to better communication between producers and consumers about agricultural products, helps understand the latest supply-demand market, and adjusts production and consumption.
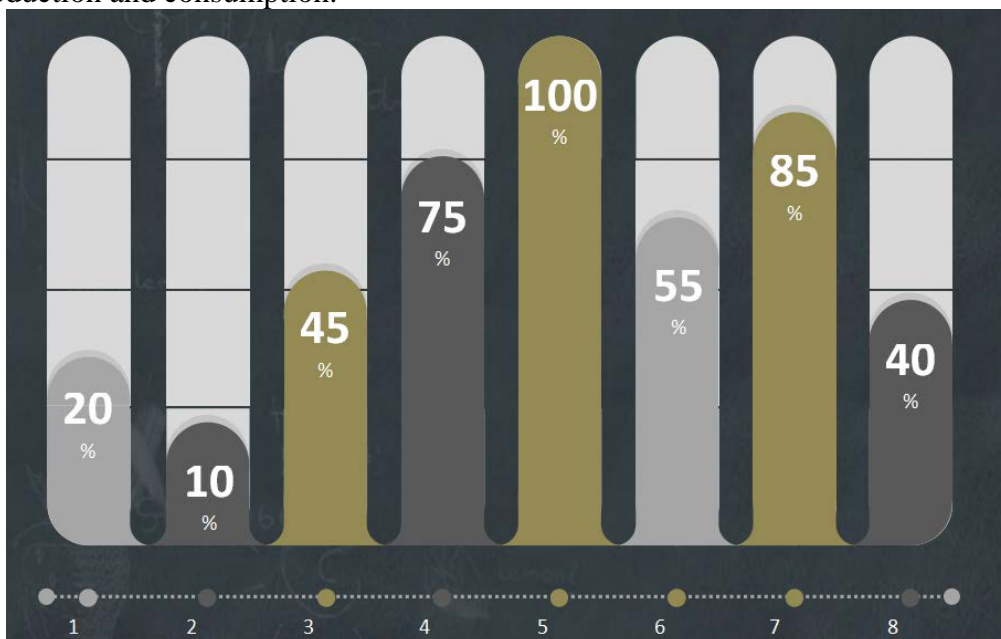
Future 3 Data Analysis

4.2 Advantages of mobile commerce in sales of Nongjiale. As shown in Figure 4.

Future 4 development measures

4.2.1 Information acquisition anywhere and anytime

Compared with traditional e-commerce, mobile commerce has the characteristics of accessing the Internet anytime and anywhere regardless of time and geographical restrictions. This enables farmers to use smartphones to obtain timely market information and conduct various business activities during the rest of the farm. Many public welfare agricultural websites built by the government provide inquiry services, so farmers can learn about the common knowledge of agricultural products and the latest supply-demand situation of agricultural products through smartphones. Imagine that one day a farmer walks into the farmland and finds that an abnormal problem in crop growth that is impossible to be solved with old experience. They can seek for solutions just by taking out the smartphone and accessing the Internet.

In addition, farmers can customize contents at mobile service providers and receive the latest information via SMS so as to guide production in real time. The mobile service providers can excavate the issue that users concern through their search record, collect the latest information, and then send it to farmers' smartphones via SMS or MMS.

4.2.2 Realizing multi-channel sales of Nongjiale

Based on using smartphones as mobile business terminals, it helps know the latest supply-demand situation of the market through information customization or accessing to the Internet, and then it is possible to get in touch with the purchaser in time via the communication function of smartphone so as to increase an effective channel for the sales of agricultural products.

The implementation of mobile commerce enables farmers to establish effective sales channels in traditional farmer's markets, traditional e-commerce markets, and mobile commerce markets. That is to say, there will be no low-cost sales due to competition caused by single sales channel. Multi-channel sales can effectively prevent the accumulation and poor sales of agricultural products.

5. Limitations and improvement methods of implementing mobile commerce in rural areas

Although smartphone-based mobile commerce is highly feasible in the sales of agricultural products and it has achieved staged success in some rural areas of China, the application of mobile commerce is still in an initial stage in China with some limitations during the implementation in

rural areas.

5.1 Mobile Commerce Awareness

Considering low recognition of e-commerce due to knowledge structure and traditional concepts, most farmers cannot comprehensively understand mobile commerce since it is a new model of e-commerce. How to effectively help farmers integrate the resources in sales, and establish effective communication between mobile service providers and farmers need to be further explored.Development demand As shown in Figure 5.
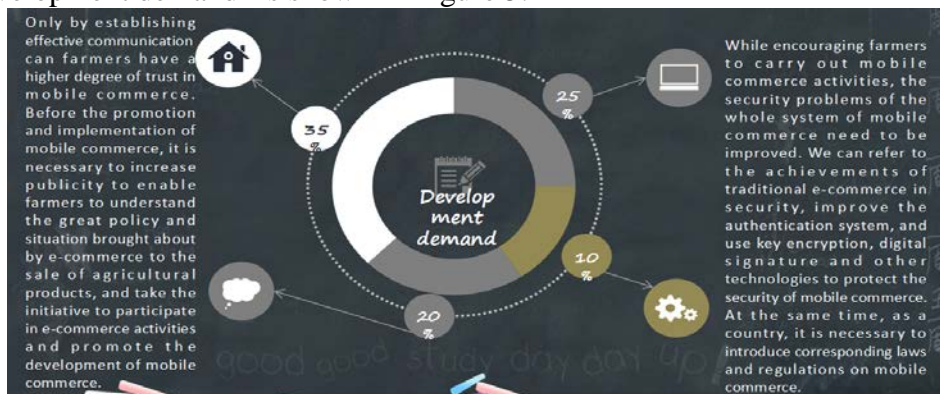

Figure 5 Development demand

Only by establishing effective communication can farmers deeply trust in mobile commerce. Before promoting the implementation of mobile commerce, it is necessary to increase publicity so that farmers can understand the great policies and situations brought by e-commerce to agricultural products sales, and thus actively participate in e-commerce activities, and promote the development of mobile commerce.

5.2 Security of Mobile Commerce

Smartphones are the most important terminal devices for the mobile business activities carried out in rural areas. However, such terminal devices cannot guarantee users' security or personal privacy due to its low safety degree. Before the network is connected, it will be of high risk to disclose the important data such as the phone number and account password stored if the smartphone is lost or stolen. After accessing the network, there are also many security problems; for example, and the smartphone may be infected with a virus when downloading something, which could result in theft of account.

The security of entire mobile commerce system also needs to be improved while encouraging farmers to conduct mobile commerce activities. By referring to the achievements made by traditional e-commerce in security, it is available improve the authentication system, and ensure the security of mobile commerce through key encryption, digital signature and other technologies. Meanwhile, the state shall introduce corresponding laws and regulations for mobile commerce.

6. Conclusion

The development of mobile commerce is still in its infancy, so there is still room for improving its security and mobile network tariffs, but the anytime and anywhere characteristics of mobile commerce are more suitable for the sale of agricultural products. Farmers' basic conditions and facilities have affected the implementation and development of traditional e-commerce. With the intelligent development of smartphones and the increase of ownership rate in rural areas, to develop

mobile commerce is the best choice for implementing e-commerce development of agricultural products.

The application of e-commerce has opened up sales for agricultural products and obtained remarkable achievements. As a new mode of e-commerce, mobile commerce is more suitable for being applied to the sales of agricultural products because it brings more convenience to farmers to carry out e-commerce and enjoys promising application in the sales of agricultural products.

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