

Liaoning Province Rural Electronic Commerce Application Research

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Abstract—Since the 1990s, with the rapid development of Internet technology, network has gradually walked into our life. At the same time, the information construction in China has been vigorously developed. In China, rural population takes up a large part of the population. It has always been an important issue in China to realize the rapid development of the rural economy. Informatization is an important condition for shortening the gap between urban and rural areas, as well as the foundation of rural technology reform and economic development. Rural informatization has solved the problem of “agriculture, rural areas and farmers”, improved the living standard of the farmers and promoted the economic development in rural areas.

Keywords- *informatization, rural electronic commerce, agricultural products, investigation*

I. INTRODUCTION

Under the environment of the rapidly developing global electronic commerce, the electronic commerce of industry and service industry in China also grows quickly, but at the same time the rural electronic commerce is walking with difficulty. In the wave of electronic commerce, the rural market also becomes active, with electronic commerce entering the rural market. However, limited by the specific rural environment and conditions, it cannot be conducted in accordance with the developing mode of other industries, but requires us to constantly explore and make attempts to create a new pattern of electronic commerce fit for the rural market.

Therefore, now we should timely and comprehensively learn about the current status of electronic commerce conducted in our province, to find the problems that restrict its development, timely carry out reform and constantly explore to find a development path suitable for the development of rural electronic commerce in Liaoning province.

II. RURAL ELECTRONIC COMMERCE OVERVIEW

A Implication of Rural Electronic Commerce

Rural electronic commerce means the activities which is based on Internet platform and serving various rural resources. It has developed rural information service business, exploited service scopes and formed the information service stations for agriculture, countryside and farmers issues which has spread all over the counties, towns and villages. It has provided new type of marketing channels and more benefits for immense farmers.

In the text of the Conditions for Fostering Rural Electronic Commerce Development in Our Country And the Analysis on Promoting Countermeasures, Li Zhigang thinks its essence is to apply modern information technology to serve the issues of agriculture, countryside and farmers and therefore to promote the increasing of agricultural yield, enlarging farmers' income and the comprehensive progress of rural society. The development of electronic commerce has brought new blood and vitality to the countryside and has provided a sound approach for settling the issues of agriculture, countryside and farmers.

B Characteristics of Rural Electronic Commerce

The rural electronic commerce has solved the problem of unsmooth and insufficient rural information flow, which can bring timely and accurate information to the massive peasant households at the first time, effectively adjust industrial structure, settle the problem of asymmetry between agricultural production and market, result in the commercialization, digitalization and network of agricultural information.

Rural electronic commerce can achieve products integration, forge complete industrial chain, realize large-scale production and build its own brand. Meanwhile, there is no regional restriction and our products can be sold in other provinces and even other countries, by which more markets are exploited and complete sales system is realized.

III. ANALYSIS ON THE DEVELOPMENT POTENTIAL OF LIAONING RURAL ELECTRONIC COMMERCE

A Analysis on the demand of Liaoning rural electronic commerce

1) The psychology of rural consumers

Price is the top factor that affects the consumers. At the time of pursuing the intrinsic value of commodities, most people must select the economic ones, and also for the reason that the income of rural consumers is limited, they would be more sensitive to the price of commodities and would not have high requirements for the brands. Compared with traditional physical store, due to the omission of intermediate links, the cheaper price of online store can just satisfy such demand of the rural consumers.

Owing to the constraint of special natural and social environment of rural areas, there are no large-scale supermarkets, malls and other shopping places. Then it is not convenient for the rural consumers to purchase livelihood necessities. If they want to buy the goods of

nice quality and low price and have diversified choices, they have to go downtowns to make shopping, which not only costs traffic fees, but also takes the time of total day. However, the online shopping is not limited by business hours and regions and can be carried out at any time with simple operations. So the online-shopping has provided convenient and rapid resolutions for rural consumers.

2) Main applications of rural Internet

The impression which rural people have had for Internet all along is that it is only used for amusement, and the reason is that the early application of Internet is mainly for online games, which are perceived to be idle about and engage in no decent works. Therefore, some parents do not permit their children to contact network. As the children have great curiosity and are easy to accept novelties, their studies would be affected. Obviously it is a misunderstanding, and with the development of Internet, this phenomenon will be altered.

It can be seen that the production and sales of agricultural products in countryside are not completely combined with Internet yet. What the electronic commerce will particularly develop is to realize the electronic commercialization of agricultural products.

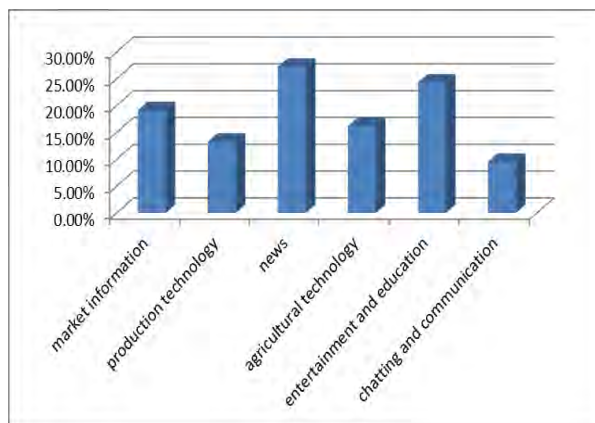


Figure 1. Applications of domestic appliances in rural families in Liaoning province

3) The websites which rural consumers mainly browse

The latest data on iResearch website has indicated that from the view point of holistic B2C market, the companies whose market shares have ranked the first five are respectively the Tmall, Jingdong Mall, VIPshop, Ictson and China Amazon. The pattern of 2 super and multiple powerful companies in the industry will continue to evolve. The platform advantages of large-scale B2C e-commerce enterprises are more and more eminent. T-mall has occupied one half of the shares and retained steadily the top position in the industry, whose leading superiority is difficult to surpass; Jingdong Mall who ranked the second has developed rapidly and has accounted for 23.3% of the shares. Among which the VIPshop, China Amazon, Suning e-buy, Dangdang, Yihaodian, Gome E-shop and VANCL have all played an important role.

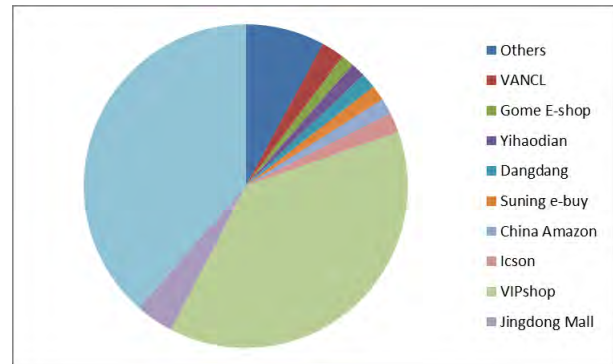


Figure 2. The transaction scale market shares of China B2C shopping web sites (Note: the data is from iResearch website)

Currently the rural consumers mainly purchase clothes and other consumption goods and the websites which they mainly log in are still Taobao, VIPshop, VIPshop and others. Because the goods of Taobao have low price and numerous categories, it has become the top choice for the people. Secondly, they would browse Jingdong Mall, Suning e-buy and others to buy mobile telephones and would prefer Dangdang, China Amazon and Taobao to buy books.

4) The on-line purchasing method of rural consumer groups

It is revealed through investigation: among the newly added rural netizens, the Internet surfing devices are mainly desktop computers, laptops and mobile telephones. Among it, most urban residents will use desktop computers, while the rural residents mainly use mobile telephones.

According to the indication of the newly added netizens, the usage rate of laptops among the rural netizens is comparatively low, which has an inevitable relation with the price of laptops. On the contrary, the price of mobile telephone is low and the current popularizing rate of mobile telephones in our province has reached 87.8%, which shows that most people have their own mobile phones and the mobile phones have become an indispensable part of people's lives.

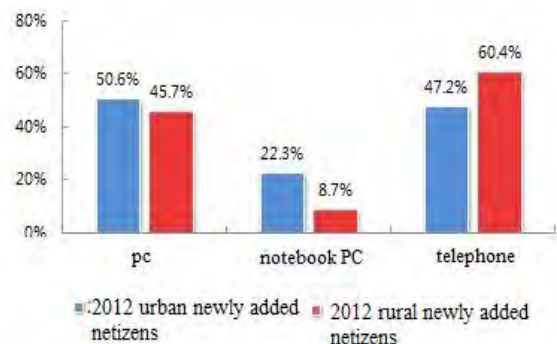


Figure 3. The comparison between the Internet surfing devices of (Note: it is from rural areas and maybe usher in a new surge of Internet)

2012 urban newly added netizens; 2012 rural newly added netizens

B Analysis on the supplying of Liaoning rural electronic commerce

1) Agricultural products supplying capacity of Liaoning province

The increasing rate of Liaoning grain yield has ranked the first in the nation, and full year grain yield has reached 20.35 billion tons. The rice produced in Liaoning province is famous for fluffiness and softness, fragrance and palatability. The rice output has reached 8.2665 kilograms per square meter, which is 15.6% higher than the average level of the nation and has ranked the fourth in the country. Liaoning province is also the main production zone for spring maize in the world, the total maize yield has accounted for 60% of total grain yield in the province and the annual maize amount for external sales is about 3~4 million tones.

Early in 2004, the total cultivation area of vegetables in Liaoning province has reached 0.65 million square meters, among which total output has reached 25 million tons with total output value being 22.1 billion Yuan. The cultivation area of fruits has reached 0.667 million square meters, the total output of fruit has reached 3.85 million tons with total output value being 7.5 billion Yuan. This has ranked the fourth in term of the fruiter cultivation area and total fruits output in northern regions in our country.

The total output value of fishery has reached 50 billion Yuan, among which the total yield of aquatic products is 4.03 million tons. The aquaculture output has reached 2.54 million tons and the foreign exchange earned through aquatic products exportation has reached 1.045 billion US dollars, which has occupied the third position nationwide for successive 4 years and has accounted for over 70% of total provincial agricultural exportation.

2) The marketing channels of Liaoning agricultural products

The marketing channels of Liaoning agricultural products mainly have original purchase and sales channels and also on-line purchase and sales for agricultural products.

The conventional sales method is that the peasant household would stay at home and wait for the intermediate dealers to purchase the products, and the peasant households would have no discourse power and have no much benefit to obtain.

Compared with the conventional marketing channels, at present the Liaoyang municipal government in our province has taken the construction of fresh and live agricultural products distribution network as an important people's livelihood project, which would be led and organized by Liaoyang supply and marketing cooperatives to implement. The supply and marketing cooperatives adhere to three major principles of facilitating and benefiting the people, helping the farmers to increase income and safe consumption, through the operation mode of "agricultural products base + sorting and distribution center + sales terminals", guarantee the quality of products from the source and deliver the fish, meat, eggs, fruits and vegetables and other pollution-free agricultural products produced by the farmers directly to the outlets in the cities.

3) Preferential policies for rural electronic commerce in Liaoning province

In the Several Opinions of the CPC Central Committee and State Council on Promoting the Construction of New Socialist Countryside issued by the State Council, it has been proposed in terms of "expediting rural infrastructure construction" and "enhancing agricultural products quality safety and market circulation works" that it should support and develop direct sales and distribution, chain management and e-commerce transaction of agricultural products, positively promote agriculture informatization construction, take full advantage of and integrate information resources concerning agriculture, strengthen radio, television, telecommunication and other information service aimed at countryside, focus on "golden agriculture project" and "agriculture comprehensive information service platform construction project". Such directive opinions have reflected the government's high emphasis on the farmers to use modern information technology to improve market entrance ability and promote their income increasing. In order to positively respond state's appeal, our province has been devoted to the combination of electronic commerce and agricultural products.

IV. COUNTER MEASURES FOR DEVELOPING RURAL ELECTRONIC COMMERCE OF OUR PROVINCE

A Reinforce the construction of electronic commerce infrastructure

1) Provide computers and on-line communication

Currently Liaoning province has not realized the target that every administrative village would have its own electronic library, because the desktop computer may be not affordable for some families, however, the charge-free Internet surfing devices can be provided to the villagers, which can solve most problems. This will require large amount of capital support by the government to create the favorable condition.

Meanwhile, Internet is the dissemination medium for electronic commerce, and the e-commerce would be impossible to be launched without convenient and rapid network. Therefore, the scale and total level of information construction should be raised, the combination dissemination method of "the integration of three electronic devices"(telephone, television, computer) should be realized, the information service network with the advantages of conventional media and modern information network complementary to each other should be established, and the information service targeted at the farmers should be promoted. The technological content and usage efficiency of agriculture information infrastructure should be raised by means of outfitting necessary computers and network communication equipment.

2) Construct rural information service system and comprehensive service station

Set up countryside information works institution in the 14 cities and agricultural counties of all over the province. Erect multi-level and multi-dimensional agricultural information service system framework with the province as lead, the cities as backbone, the towns,

villages and households as radiation and extension in all the province. At the same time, establish countryside comprehensive information service station within the whole province and provide the massive farmers with targeted information promotion, such as the latest weather, crop yield, plant diseases and insect pests prevention, agricultural products prices dissemination and others to help the farmers to master the latest information and technology.

3) *Construct agricultural expert visualization service system*

Impel the construction of agriculture facilities in all the province, accelerate the popularization and application of Internet of things in the fields of agricultural production management, carry out the greenhouse remote monitoring to automatically regulate the optimum conditions required by the plants' growth.

Construct rural experts visualization service system, rely on terminals and Internet, apply related media and other network video transmission technology, realize the "face-to-face" instant remote exchange between the farmers and the experts, settle the problems of production technology at the first time and improve the agriculture information service efficiency and level. Gradually establish the visualization dissemination and application mode of rural informatization service

B *Perfect the logistics distribution*

1) *Perfect the third party's logistics distribution system*

At the very embryonic period of on-line shopping, the logistics is the top factor that restricts the Internet, the imperfection of logistics system has led to the dropping of users' experience rate and has caused the on-line shopping remain stagnant. Currently, the kind of C2C on-line shopping websites, such as Taobao, have all

adopted the third party's logistics and have all cooperated with postal service, SF-express, Yuan Tong, STO, Yuan Da and others.

2) *Build the logistics distribution system of agricultural products*

The agricultural products of Liaoning province have large quantity and enormous species, most of which have not formed the standardization of products and there are difference existing among the products. At present, there is still no complete legal system, thus the difficulty of logistics technology is high. The current logistics and distribution of agricultural products are mainly carried out by the conventional transportation in state owned enterprises, such as China postal service, railway system, CMST, sea transportation and others, also by individual and private operating companies, warehousing and transportation companies, and secondarily by professional third party's logistics companies.

C *Build electronic commerce platform*

1) *Establish agricultural products web sites with unique features*

In Liaoning province, there are also large amount of peculiar agricultural products, such as rice, soybean, peanut, vegetable, fruit, fishery and others. We can build our own web site with unique features, develop the supply and sales industry groups composed of villages and towns, and form marketized and standardized production and sales. Build and form rural electronic commerce platform, provide on-line transaction, auction, e-payment, logistics and distribution and other functions. The electronic commerce service system related to the production, supply and sales of agricultural products should be built up

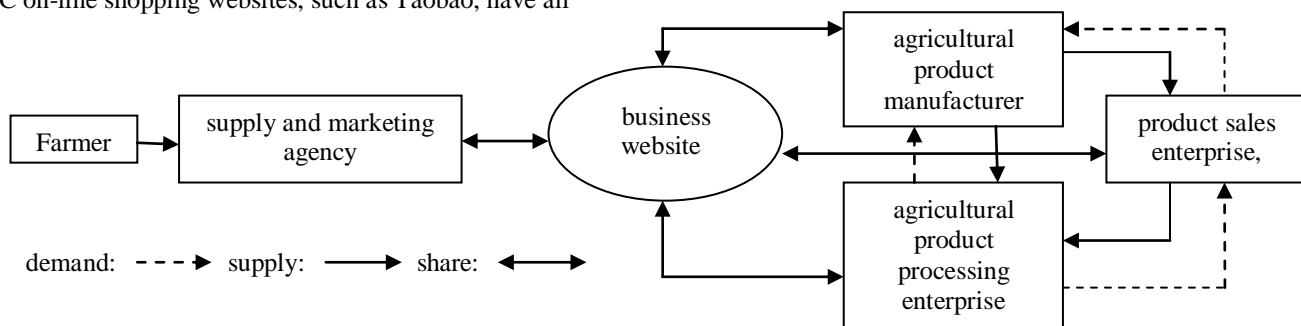


Figure 4 Agricultural products electronic commerce model (Note: the data is from reference bibliography [11])

2) *Introduction of foreign merchants cooperation*

We have sufficient agricultural products and can find the enterprises for investment through this platform, form the standardized production and trade, achieve complete industry chain and generate its own brand effect. At the same time what is most important is that in such trade form, the peasant households can obtain certain pricing power and would no longer submit themselves to the tender mercies of others, even there is bad harvest, and they still can make benefits. This can drive the holistic economic effects of total province.

D *Establish the training for rural electronic commerce talents*

1) *Foster typical villages and towns*

With the combination of government, academic institution and enterprises, cultivate a group of application prototypes, foster a batch of village and township electronic commerce application demonstration prototypes, agricultural leading enterprises, agricultural products wholesale markets as well as chain supermarket electronic commerce demonstration prototypes, and build up the electronic

commerce transaction platform for famous and excellent peculiarly featured agricultural products. For rural leisure agriculture electronic commerce application prototype, a group of electronic commerce demonstration samples of different kinds and with different input-out put ratio should be cultivated. Centered on key agricultural products, a batch of trans-regional and specialized peculiarly characterized websites and transaction platforms should be established. Realize the construction and application of the traceable systems of various links, such as plantation, cultivation, production, processing, warehousing, transportation, sales and others of key agricultural products. Provide the logistics information query, intelligent distribution, goods tracing and other logistics information service prototypes for agricultural products, and expand it gradually.

2) *Launch information technology popularization and education*

Through various of approaches and manners, such as radio, television, network, multimedia, newspaper and others, launch information technology popularization and education, popularize electronic computer application and electronic commerce knowledge, enhance technical training, raise farmers' informatization quality, change people's shopping customs and their way of life and works step by step, and increase the proportion of the village cadres, village netizens and e-businessmen in rural population.

3) *Make training for the existing talents*

In the existing talents system of total province, make efforts to propagandize electronic commerce related knowledge, regularly organize agricultural information promotion and training. Adopt the form of provincial level direct and concentrated training, successively hold training classes for rural core information stations and messengers, employ the method of taking a case as an example for the rest to follow, gradually make propaganda to the lower levels, from province to cities, from cities to counties, from counties to towns, from towns to villages, and finally achieve the goal that every person could master it. Establish the training system for rural electronic commerce talents

V. CONCLUSION

The development of rural electronic commerce should be based on information technology and network system with the associated solutions, promoting countermeasures and impetus as supports. The development of rural electronic commerce in our country is both a project of great difficulty and also a major opportunity for developing new socialist countryside, which can make us break through the bottlenecks to stride from small farmers to large market. The development of rural electronic commerce will become the key link for propelling the marketization transformation of our country's agriculture, developing

"Order Agriculture" and realizing the modernization of agriculture.

Therefore, we should seize the opportunity to explore new development modes. Adopt similar forms to build rural electronic commerce platform, provide on-line transaction, auction, e-payment, logistics and distribution and other functions. The electronic commerce service system related to the production, supply and sales of agricultural products should be built up. At the same time it should be combined with the rural realities, use a thoroughly new and evolutionary viewing angle to observe and analyze its feasibility, and on this basis, use the prospective and creative perspective to study our country's rural electronic commerce development countermeasures to adapt the trends and tendency of the development of the times.

The development of rural electronic commerce has great significance for ameliorating agricultural products circulation situation, raising agriculture competence, creating better social and economic benefits. It will become a powerful lever for the marketization of agricultural management during agriculture industrialization process, which will have far-reaching impacts on Liaoning cultural and rural economy as well as social development.

REFERENCES

- [1] Wang Weiming. Rural Electronic Commerce Market Potential Analysis[J]. ECONOMIC RESEARCH GUIDE, Issue 20, 2012
- [2] Sun Baiming. Primary Investigation on Rural Electronic Commerce Development in Our Country[J]. Northern Economy, Issue 6, 2013
- [3] Jin Yingze. Research on Rural Electronic Commerce in Our Country. Agricultural Technology and Equipment, Issue 3, 2010
- [4] Guo Junming. Elementary Analysis on Rural Electronic Commerce Development Strategy in Our Country [J]. Anhui Agriculture Science, Issue 37, 2011
- [5] Liu Shenghua. Current Situation and Prospects of Liaoning Rural Informatization Development [J]. Agricultural Technology and Equipment, 2011,183(3).
- [6] Gong Bingzheng. Probe into the Development Ideas and Countermeasures for Rural Electronic Commerce [J]. Strategy and Policies. CHINA INFORMATION TIMES
- [7] Li Zhigang. Analysis on Conditions and Promoting Countermeasures for Fostering Rural Electronic Commerce in Our Country [J]. Forum On Science and Technology In China, 2012
- [8] Li Haiping, Liu Weiling. Existing Problems and Mode Innovation of Rural Electronic Commerce [N]. Journal of Shanxi University of Science & Technology, 2011
- [9] Zhong Xiuhua. Application of Electronic Commerce[M]. Tsinghua University Press, 2011
- [10] Tu Tongming. Rural Electronic Commerce [M]. Hubei Science and Technology Press, 2011
- [11] Gary P. Schneider, 《Electronic commerce》 [M]. China Machine Press, 2012
- [12] Tim Jackson. A review of evidence on consumer behaviour and behavioural change[J]. university of surrey, 2013.
- [13] Der-Jiunn Deng. On gender differences in consumer behavior for online financial transaction of cosmetics[J]. Journal of Ireland, 2013 Vol 58(1-2).