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A Study on the Countermeasures of Modern Agricultural Development from a Perspective of E-commerce——A Case of Suzhou, China

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Abstract Based on the fact that e-commerce promotes the development of modern agriculture, the paper summarizes the present situation of agricultural e-commerce through related materials. Taking Suzhou city as an example, the paper analyzes the features of modern agriculture. And the modern agriculture is characterized with apparent industrialization and scaled requirements, the branded and particular agriculture has more advantages, leisure agriculture is the very special one. In order to upgrade the degree of agricultural industrialization of Suzhou, promote the communication of agricultural information and sales of products and lower the risks of agricultural production, the e-commerce countermeasures of modern agriculture have been put forward. Firstly, strengthen the network construction of agricultural information. Secondly, carry out the agricultural e-commerce business by B2B model. Thirdly, construct the e-commerce platform of leisure agriculture. Fourthly, construct the e-commerce platform of modern agriculture. Fifthly, perfect the logistics distribution network of agricultural products of Suzhou. The last point is to accelerate the e-commerce training of farmers and the introduction of talents.

Key words Modern agriculture, Agricultural e-commerce, Agricultural e-commerce model, E-commerce talents, China

The modern agriculture is the socialized agriculture conducted by the means of production and scientific management offered by the modern scientific technology and modern industry. The modern agriculture is classified into the green agriculture, leisure agriculture, industrialized agriculture, featured agriculture, tourism agriculture and order agriculture and so on. E-commerce business, as the modern business method and the totally new commercial mode of network economy, has the advantages of lowering the trade costs, upgrading the trade efficiency, reducing the capital recycling and promoting sales and propagating. The combination of e-commerce and agriculture plays an important part in accelerating the development of modern agriculture. The progress of realizing agriculture e-commerce is the upgrading industrialized progress of the traditional agriculture.

1 Overview of agricultural e-commerce

At present, researches about the e-commerce contributing to the development of modern agriculture are nearly blank. Materials at home are centered on agricultural e-commerce. Zhu Junxuan, who made a study on agricultural e-commerce from a perspective of rural construction in 2008, thought that the development of agricultural e-commerce is the efficient solution to the Three Rural Issues and the new rural construction[1]. Chu Xinmin analyzed the operation of agricultural e-commerce in terms of business mode, organization mode, operation mode and profit mode, putting forward that depending on agricultural operation organization and carrying out the comprehensive agricultural e-commerce[2]. Li Shengting proposed in 2008 that with the demands as the driving force carry out the deep operation of agricultural information systems step by step and regionally, adjusting the agricultural e-commerce website at different levels, reconstruct the hierarchical and multi-leveled comprehensive e-commerce information service systems[3]. Zhang Herong, analyzed the developing modes of agricultural e-commerce in 2008, pointing out that internet marketing mode and full e-commerce mode are the main modes of agricultural e-commerce[4]. Meng Xiaoming in 2009 pointed out that the first step to develope the agricultural e-commerce is to construct a platform of agricultural e-commerce, who put forward 4 kinds of agricultural e-commerce programs of constructing platforms in China[5]. Dudan, by using PEST, analyzed at present stage the macro competition environment of agricultural e-commerce business, pointing out that the main obstacle in constraining the development of agricultural e-commerce is the traditional thoughts of farmers[6].

In general, agricultural e-commerce is the efficient routine for new rural construction. The researching areas at home of agricultural e-commerce include mainly the construction of agricultural information systems, the choosing of agricultural e-commerce mode, the construction of agricultural e-commerce platform, and the countermeasures of agricultural e-commerce business and so on. While the logistics of agricultural e-commerce, the payments of e-commerce are barely concerned, and the relations of modern agriculture to e-commerce are neglected too.

2 Features of modern agriculture of Suzhou

Suzhou is known as the hometown of fishes and silk, having a well-conditioned traditional agriculture. While, with the de-

Received: May 24, 2010 Accepted: June 18, 2010

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velopment of industrialization, modernization and globalization, the lagging development of traditional agriculture in the whole economy becomes more and more distinct and modern agriculture is the inevitable choice of Suzhou. The modern agriculture in Suzhou aims at ecology, production and life, combining with the first industry, secondary industry and tertiary industry, which embodies not only the high efficiency, high technology, but also the leisure function of agriculture. What's more, it is friendly to the environment. The provincial financial sector has invested 30 million yuan continuously to accelerate the comprehensive development of modern agriculture.

2.1 Industrialization and scaling In recent years, based on the principles of clustered industries, capital and technologies, Suzhou has speeded up the land transfer, promoted the high efficiency infrastructure, and scaled up and upgraded in agriculture. Until now, the total area of land transfer is more than 1 million squares, the proportion of the operation area of 13 experimental bases at town level reaches to 53.5%. Suzhou actively carries out the project of fertile and boundless land, accelerating the construction of the million squares experimental base of modern agriculture. At present, Suzhou has built 14 agricultural demonstration zones averaging 10 000 squares, 64 averaging 1 000 squares, with the total area more than 1.31 million squares.

The agricultural demonstration zone is the important carrier of modern agriculture, which upgrades efficiently the industrial clustering degree of Suzhou agriculture, becoming the demonstration zone and typical model of modern agriculture. Hundreds of squares of rice in Changyin city and the special fishes in Linhu town reproduce the leisure view of hometown of fishes. Vegetables in Dongbang, Changshu, machine agriculture in Liuhe, Ludu, fruits demonstration zone in Wuzhong area, grapes in Bacheng, Kunshan, all of which well embody the scale.

By developing the leading industries, accelerate the transfer progress of agriculture in Suzhou. Suzhou has the national agricultural leading companies such as Jiangsu Liangfeng foods company, Jiangsu Zhongcheng ducks company, and spring up in large numbers high technology, specialized, scaled modern agricultural leading companies at provincial levels such as zhangjiagang Sanli agricultural company, Changshu Haiming gardening company, Taicang Wen's Group, Tang Ecological Park in Kunshan, Wuzhong Biluochun tea cooperatives, Lotus Pond with City, High-tech Zone Ecological Park tree and so on.

2.2 The branded, featured agriculture Suzhou is rich in agricultural resources and advantageous in featured resources. And agriculture in Jiangsu aims at brand. At present, the number of no pollution agricultural products, the green products and organic foods is more than 1 400, topping the first place in Jiangsu province. Jiangsu has the excellent Su agricultural products such as Yangcheng Lake hairy crabs, Taihu Lake hairy crabs, Sutai pigs, Taihu Lake sheep, Taihu Lake Three White, Yangtze River four fresh, Water Eight Immortals, Biluochun tea, Loquat and so on. Dongting Biluochun tea, Yangcheng Lake hairy crabs are in the implementation of origin protection. Suzhou has basically formed a series of modern agricultural blocks and featured towns and villages which are distinct in local features and specialized in products, such as vegetables along the river, Seasonal fresh fruits, specialized Nectar Taihu Lake, Special aquatic along rivers, the high quality rice in Dian, Yangcheng and scaled poultry farming in Taicang.

Carring out the brand strategy in full scale, speeding up the register and integration of the specialized and local foods, making use of brand, upgrade the levels of agricultural organization, technology, products processing, and products quality through brand strategy. Jiangsu has fostered Liangfeng of Zhangjiagang, Haiming of Changshu, Lvrun of Taicang, Yuye of Kunshan, Zhongcheng of Wujiang, a series of agricultural infrastructure bases and companies. Jiangsu realizes its connection with Carrefour, Oushang, and RT-Mart supermarket and so on through implementing agricultural brand strategy.

2.3 Leisure agriculture Citizens now are keen on leisure agriculture. The multi-functional agricultural zone can make several times or even more added value than that of the traditional ones. Suzhou has more than 150 leisure agricultural bases now, the rural tourists in 2009 were about 17.5 million, with the direct profit 2.2 billion yuan. The rural tourism is a kind of mode based on natural beauty, ecological beauty and the rural culture. The main places of Suzhou rural tourism are Changshu Jiang Xiang Village, Li Yuan Village, Zhangjiagang Nanfeng Yonglian Village, Xiangcheng lotus Village, Wuzhong Wangshan Village, Xinqu Shushan Village, Kunshan Tang Village, Wu Jiang Xiao Dian Village, Taicang Power Station Village. In general, the primary developments of modern agriculture of Suzhou are industrialized agriculture, featured agriculture and leisure agriculture, which has the condition for e-commerce. While because of the low degree of agricultural information covering, the low quality of farmers, the weak business consciousness of farmers and industries, the development of modern agricultural e-commerce has been constrained.

3 Countermeasures of the modern agricultural e-commerce development of Suzhou

According to the features of the modern agriculture of Suzhou, combining with the present researches of agricultural e-commerce, the paper conducts a research on the countermeasures of the modern agricultural e-commerce mainly in terms of the construction of the agricultural information system, the choosing of the agricultural e-commerce mode, the construction of the agricultural e-commerce platform, the fostering of the agricultural personnel, the logistics distribution of the agricultural e-commerce.

3.1 Government's active supports, strengthening the construction power of agricultural information systems All levels of governments and agricultural authorities should formulate policies, enlarging the investment, strengthening the propagation power of agricultural e-commerce, making the agricultural companies and farmers realize the importance of agricultural e-commerce[7].

The government should speed up the construction of agri-

cultural information website, strengthen the power of exploitation and use, construct the agricultural information internet systems centered on telecommunication network, broadcast television network, cable television. And the most important is to do well the information construction of the specialized villages and leading companies to ensure a better development of agricultural information construction and e-commerce.

Construct the agricultural e-commerce platform, integrating into a platform the government information, e-commerce business, the public confidence services to form an agricultural information platform affording government, business and services to farmers, rural areas and agriculture through internet mode, and foster the farmers' capability and habits of using internet step by step.

3.2 Carrying out agricultural e-commerce business through B2B mode B2B mode includes the self-constructed B2B e-commerce business mode by the industry and the third B2B platform. Among which, the third platform can also be classified into 2 types: the comprehensive platform (e.g. Alibaba) and the industrial vertical platforms (such as China Agricultural Network). The industrialized agricultural industry may carry out internet marketing through B2B mode.

Modern companies which are large scaled and powerful may construct B2B e-commerce website by themselves, building an efficient chains of supplying and demanding, strengthening the cooperation between the upper and the lower companies, upgrading the quick response ability to the changes of the market.

To those most small scaled modern agricultural industries, because of the limited capital and the quality of personnel, it is more appropriate to use the third B2B e-commerce platform. The modern agricultural industries conduct online marketing through the third e-commerce platform, publishing and checking supply and demand information, communicating with the potential customers on internet, and acquire orders at home and abroad, enlarging the products sales.

3.3 Building the e-commerce platform of Suzhou sightseeing agriculture modeled B2C Tourism is one of the most appropriate businesses conducting e-commerce because it is devoid of logistics. Therefore, there are lots of tourism e-commerce websites in China, including the leading websites Ctrip, ELong Travel Net and Mango Network and so on. The important component of Suzhou modern agriculture is leisure agriculture, which is the village tourism belong to tourism. The implementation of e-commerce will promote greatly the development of Suzhou modern leisure agriculture[8].

Modeled on B2C e-commerce, Suzhou leisure agriculture websites should be built. On the website, the sights of modern agriculture are introduced, realizing restaurants, hotels and viewpoints introduced, propagated and consulted. Meanwhile, build the featured agricultural products trading platform according to characteristics of the local and agricultural demonstration zone, affording online demonstration, introduction and sales of agricultural products, and completing trades through e-commerce payment and the third logistics services[8].

E-commerce can be classified into the global e-commerce, the national e-commerce, and the local e-commerce in terms of region.

Because to some degree Suzhou featured products has some brand influence, combining with some regional and seasonal characteristics, the e-commerce website which is the sales channel of featured products in Suzhou modeled on B2C will be accepted by the local customers gradually.

Of course, farmers, agricultural industry and products agents may open an online shop on the C2C platform to sell specialized products. For example, you may open a shop on the most popular website Taobao, or open a B2C online shop in Taobao malls, choosing Alipay as the payment, the third logistics company as the distribution agent to finish the trade.

3.4 The construction methods of modern agricultural e-commerce platform If the modern agricultural industries want to build their personal e-commerce platforms, they will face problems such as lack of capital and personnel. At the same time, the costs of marketing propagation is high, therefore, different scaled modern agricultural industries should adopt different e-commerce strategies. Some industries may choose free web site marketing, through the third platforms such as B2B, C2C to carry out online marketing. There is no need to have their e-commerce platforms. To those industries who hopes to have their web sites, taking into consideration the capital, technology and personnel, the construction ways suiting for the modern agricultural companies are Web Hosting and Outsourcing Model.

3.4.1 Building web sites by Web Hosting. In building a personal e-commerce web site, taking capital and personnel into consideration, the modern agricultural industry generously adopts Web Hosting method. Renting Hosting space from ISP, the industry will apply for domain name, design web and propagate web site, conducting the online marketing combining the offline sales. Because sharing by multi web sites, the hardware, mending of internet and costs of communication lines of ISP by each user are greatly lowered.

3.4.2 Outsourcing model. The outsourcing model can be classified into ASP model and SAAS model. it suits for mainly industries which are not familiar with IT technology, lacking of personnel and capital. The applying of outsourcing model makes the medium sized industries costs lower to acquire relatively complete systems. The outsourcing service provider has the ownership of application system (including hardware and software). The application service is placed in the data center of the service provider for centralized management, affording application service to multi industries. And the industries do not need to bear the mending job of e-commerce systems, reducing the investment of capital and personnel.

3.5 Perfecting the logistics distribution web site of agricultural products E-commerce involves information flow, capital flow and logistics. Information passes on through e-commerce web site; the capital is finished through online bank, the payment of the third platform. At present, information and capital flows and are relatively complete, the bottle-

neck of e-commerce development is logistics. Because of the scattering characteristics of modern agriculture, and most of the products requiring fresh protection, all of which results in backward development of logistics construction. How to solve the problem of logistics is the key to e-commerce development. So, construct actively the logistics web sites covering Suzhou, build a logistics base composing collection, trading, distribution, processing and information flows to afford logistics service to products sales of the local.

3.6 Accelerating the e-commerce training course of farmers and attracting e-commerce talents The main body of agricultural e-commerce is farmers, agricultural industries and products trading agents. It may play an important part in accelerating the development of e-commerce to conduct e-commerce training to the main body, spreading among the main body the knowledge of network and e-commerce in a planned strategy.

Of course, the development of e-commerce cannot get devoid of knowledge of modern agricultural products, knowledge of business and network. So, the government should function as a guide, formulating beneficial policies to attract e-commerce experts and e-commerce students to get involved in e-commerce job in rural areas[9].

4 Conclusion

Agricultural e-commerce is based on information technology and network, managing the whole process of production, supply and sales of agricultural products. As a newly business mode, agricultural e-commerce is able to improve the sharp contradictions existing in circulation of agricultural market. Stimulating the rapid development of traditional agriculture with information is helpful to accelerate the industrialization of agriculture, upgrade the scientific management of modern agricultural industries. Suzhou modern agriculture is mainly industrialized agriculture, tourism agriculture, leisure agriculture and featured agriculture. By applying e-commerce, it has some practical significance to accelerate the development of modern agriculture and construction of new rural areas.

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sustainable use of farmland. According to the criterion layer of farmland protection, farmland quantity protection in Urumqi-Changji Economic Zone has obtained significant achievements in controlling the transformation from farmland to construction land and in maintaining the area of farmland, but has no significant effects in the two aspects of per capita farmland area and multiple cropping index from the year 1996 to 2007. The change process of farmland quality shows that increase of farmland quality is at first the raise of total grain yield, then the unit grain yield, and finally the integration of unit grain yield and farmland infrastructure improvement. Sustainable development of farmland shows an upward trend in general, that is, the sustainability of farmland use gradually increases.

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