ABSTRACT

Currently, the development of Hainan agricultural products supply chain is still in its infancy, agricultural products supply chain management mode based on electronic commerce has not yet been established. In the face of increasingly complex competition environment and a more extensive competition, static, the structure of the complex supply chain of agricultural products cannot meet the continuous competition in the market environment, the changing of environment change and the request of the customer requirements vary widely. Therefore, constructing Hainan agricultural products supply chain management in e-commerce environment is realistic and urgent operation model.

INTRODUCTION

As China’s only tropical island province of Hainan, known as "natural big greenhouse", is the development of efficient agriculture and winter agriculture tropical place to gold. The unique resources endowment and superior production conditions provides the high quality agricultural production in Hainan obvious geographical advantages, to production, processing, warehousing, transportation, distribution and trading of agricultural products supply chain management each link has brought the infinite vitality. At present, the agricultural products supply chain management of Hainan province is still in its infancy, the main obstacle to the further development of agriculture from production to market circulation field, the traditional agricultural products supply chain management information is ineffective and trading to the defect of single face network and the strong impact of information technology.

Along with the advancement of construction of Hainan international tourism island, Hainan rapid economic and social development, the consumer demand for agricultural products appear harmless, fresh and diverse characteristics. In meet the demand of the
growing consumer groups at the same time, with the rapid development of electronic commerce, constructs a model of agricultural products supply chain operation is safe and effective to reduce the loss of agricultural products in the process of logistics, ensure the quality and safety of agricultural products, improve the competitiveness of agricultural products in Hainan, the realization of the entire supply chain information sharing and value increment and so on has certain practical significance, is one of the major subjects at all levels of government and enterprises.

THE CONNOTATION AND CHARACTERISTICS OF AGRICULTURAL PRODUCTS SUPPLY CHAIN LOGISTICS MANAGEMENT AND MODE

The connotation of agricultural products supply chain management

Refers to the agricultural products supply chain is involved in the process of agricultural production, circulation of producers, middlemen, and consumption of network system. Between supply chain management is to each member in the supply chain logistics, information flow, cash flow planning, coordination and control, with minimal cost provide consumers with the greatest value with the best service, so as to improve the operation efficiency and economic benefits of supply chain, to realize the value of the whole supply chain value.

Agricultural products supply chain management

Agricultural products supply chain is agricultural products from the acquisition, processing, transportation, distribution and eventually sent to the customers of the process of interlocking chain, it is the agricultural industry chain downstream and end. Agricultural products supply chain is involved with the agricultural products or services provided to the final consumer of upstream and downstream farmers, manufacturers, wholesalers, retailers and ultimately consumers of supply and demand network. In general, the agricultural products supply chain consists of the following links: the means of production supply chain, production, processing, distribution, retail link.

Agricultural product supply chain management can be said to be the surrounding agricultural management core, through the control of information flow, logistics, capital, coordinate suppliers, farmers, agricultural means of agricultural production operator, consumer interests, between the members of supply chain as an organic whole, make the logistics not only throughout the procurement, acquisition of transportation and distribution of agricultural products, agricultural products throughout the enterprise and upstream and downstream enterprises formed between the supply chain, finally realizes the supply chain performance.
The characteristics of the agricultural products supply chain

The electronic commerce environment, the characteristics of the supply chain of agricultural products logistics performance: (1) Information. The logistics of information of is the inevitable requirement of e-commerce, under the electronic commerce provides the best logistics service is not just rely on advanced technology and equipment, but more importantly good information processing and transmission system. In addition, in the agricultural products logistics network design and decisions will also have a great advantage; (2) network. Logistics distribution center as the core of the logistics distribution system by computer communication network and the agricultural product suppliers through the Internet communication order process, logistics distribution center collected downstream customer order process through a computer network, the process can be done automatically; (3) more functional. Multi-functional e-commerce era inevitable stage of supply chain logistics intensive management, namely the logistics distribution center not only improve the warehousing and transportation services, also must carry out distribution, distribution and distribution processing services of various kinds of improve the added value.

Agricultural products supply chain logistics management under the e-commerce environment model

In essence, supply chain management is a platform, its goal is to make the business flow optimization, and maximize the overall efficiency and benefit of, at the same time to deal with the content of the supply chain management is the final customer demand as the driving force, make each node supply chain to be able to share information, to achieve the operation of synchronization and coordination. In the whole management process, by means of electronic commerce, the application of network technology to realize real-time monitoring and real-time decision-making of the whole logistics.

THE NECESSITY OF THE AGRICULTURAL PRODUCTS SUPPLY CHAIN MANAGEMENT IN E-COMMERCE ENVIRONMENT IS ANALYZED

Under the electronic commerce development of logistics bottleneck more and more prominent

Circulation of agricultural products in the business flow, logistics, information flow and cash flow of comprehensive coordination is very important. Because of the logistics and business flow, information flow and cash flow difference exists between the essence, can generally through information network in the practical operation and intermediary organizations to achieve the exchange of information and capital flows, but logistics is often more show the commodity entities on the plane and space to move. Bound by its own nature, its relatively high cost and difficulty of implementation, the main obstacle to be rapid, efficient supply chain operation, it depends on the widespread application of information technology, especially in the rapid development of e-commerce and produce customer personalized demand under the situation of increasingly sharp, logistics bottleneck more and more prominent. "Barrel theory" told
us that any member on agricultural products supply chain logistics productivity will reduce the competitiveness of agricultural products supply chain. Therefore, in the electronic commerce environment of e-commerce platform to achieve information sharing, to enhance the overall efficiency of the agricultural products supply chain is urgent and necessary.

**Poor coordination of logistics links in agricultural products supply chain, and the overall value chain value-added difficulties**

Hainan province is still in the traditional agricultural products logistics system, the information flow, business flow, logistics and cash flow in time and space from each other, can't very well solve the agricultural products formed in the before, during and after the structural contradictions. In agricultural products supply chain, lack of coordination and reasonable logistics management process, and can't maximize play speed and efficiency of the logistics function, the value of logistics value-added co., LTD. Use of the advantages of electronic commerce, can use modern agricultural e-commerce platform, at the same time in the center of the logistics link to improve the efficiency of logistics in position, so can effectively coordination and optimization of each node of logistics activities. For a long time, agricultural products logistics activity of isolation between supply chain members will directly affect the overall efficiency of the supply chain logistics, value-added value chain becomes difficult.

**Inner demands for the agricultural enterprise is the inner motive power of e-commerce development**

Hainan is China's important producer of winter melon and tropical fruit, was also the first ecological demonstration provinces, the epidemic area, basic is the outdoor natural pollution-free agricultural products, green products and organic products, agricultural development laid a solid foundation for the brand. Therefore, the island's many agricultural enterprises to realize the importance of the development of electronic commerce, have on the network to carry out the agricultural information service, and network marketing.

In 2013, through the government of Hainan province, Taobao, operator tripartite cooperation, build Taobao "characteristics of China, Hainan pavilion", to carry out the agricultural product network electronic promotions, the trading of agricultural products from physical to virtual market, opening the new age of Hainan agricultural e-commerce, as of the end of November 2013, Hainan pavilion in business 608, sales of 379 million yuan, the eight located enterprises annual sales reached 10 million yuan, by the end of 2014, 1600 Hainan agricultural electricity enterprises, annual sales of 6 billion yuan. Some enterprises set up their own e-commerce sites, such as Hainan Hongjun logistics group electric business platform (www.guoxiancheng.com), sales of Hainan emperor banana, star fruit, dragon fruit of hearts, yellow lantern chili, Hainan papaya, ivory mountain in Hainan, Hainan Qiongzhong county high-quality goods, green, orange and other characteristics of agricultural products; From enterprises to professional e-commerce platform (such as Taobao) in Hainan characteristic, the marketing of agricultural products such as: four seasons prosperous fruits such as
Taobao shop specializes in Hainan fresh mango, green, orange, passion fruit, etc., Rural atmosphere, at the same time the attention from the perspectives of product, customer service, logistics, improve service quality, and thus for the good word of mouth, 2014 sales break don; And as Chengmai county of Hainan bridge selenium-rich sweet potato in Hainan local Internet electric business platform - the south China sea network electric business platform; Some enterprises using Sina microblog, WeChat to carry out the marketing of agricultural products, such as Wenchang chicken, Nanshan longevity fruit, algal pigs on WeChat platform to promote; Some enterprises set up electric business platform, such as Hainan's first network vegetables for direct distribution center was established in Tunchang county, straight through e-commerce platforms such as Hainan and net citizens, the table and the fields to realize a butt joint citizens simply by its net or WeChat order, you can never leave home can eat every day to the safety of fresh vegetables; Hainan Austral Food Co., Ltd. makes full use of the "Internet +" call business blowout, expected full-year 2015 online sales of ¥200 million.

Operators realize network will bring more trade opportunities for their business, so in the supply chain of each node can realize the sharing of information, production and operation enterprises can grasp the complete information of agricultural products at the same time, the market demand and price the fastest to make timely response, the two sides of supply and demand information more transparent.

UNDER THE E-COMMERCE ENVIRONMENT OF HAINAN CHARACTERISTIC AGRICULTURAL PRODUCT SUPPLY CHAIN OPERATION MODEL DESIGN

In increasing agricultural production on the one hand, on the other hand, consumer demand is more and more diversity, pollution-free and fresh. The reality is that the surplus of agricultural products, sales difficult problem increasingly protruding, it showed obvious in Hainan island. Lingshui county cherry tomatoes, cherry tomatoes in 2015 the price of "the big diving", cherry tomatoes, 2014 of the purchase price is ¥9 per kg, less than ¥4 per kg, this year is more serious is that produces one times less than last year's 3500 kilograms per mu, only 1500 kilograms, let farmers loss of ¥9000 per acre, becomes the leading role of "hard sell" cherry tomatoes. One of typhoon, part of the urban residents after changed hands several times because the plants of the price is too high and difficult to "buy", and residents to buy because of the high pesticide residue. Therefore, under the network information technology development, the construction of Hainan agricultural products supply chain management mode, effectively reduce the intermediate links, strengthen the supervision of a third party, is an important means of ensuring the production and marketing of agricultural products and people's living standards. How to make full use of information network and prepare agricultural products supply chain management model, can effectively promote the development of agricultural information and industrialization.
Based on the construction of mobile communication of information platform of agricultural products

Hainan rural areas have a good development space and great potential, to dig up the potential of farmers is a revolutionary progress. The existing three telecom operators should stand in the perspective of the era of farmers' concerns, a lot of information of agricultural products and farmers are still "the last kilometer", telecom operators should provide farmers with convenient agricultural product price information, supply and demand information, and to let the farmers to understand and grasp the information.

In this process, the government should actively with telecom operators, the agricultural industry association, the national agricultural products wholesale price information network, Hainan agricultural product circulation, public information platform, agricultural enterprises to communicate, to assure timely update information every day and passed through the mobile terminal to farmers. The author designed the model as shown in figure 1.

![Figure 1. Agricultural information publishing platform model design.](image)

In figure 1, in the model, and in the core position, is a telecom operator, under the government-led integrate the related information to farmers as an object of service, through the information channel to push farmers to reliable and valuable information in a timely manner. At the same time, telecom operators should gradually improve information platform, establish and perfect the archives of farmers, to provide customers with quality service. At the same time, telecom operators can through own influence and the trust level of agricultural enterprises, to provide agricultural enterprise demand information release, guarantees, trading platform and a higher level of services in order to get profit.

With the popularity of cell phones and other mobile terminals, farmers as an information platform of the receiver by telecom operators to identify information, communication, communication, understanding the authenticity and efficiency of the agricultural enterprise information demand, is conducive to agricultural production and
trading activities, promote the development of agricultural economy, to raise the income level of farmers.

**Agricultural products supply chain management information platform model**

In guarantee fully, on the basis of agricultural information, agricultural products supply chain management information becomes more important, supply chain management includes the following areas: agricultural cooperation organization management, agricultural cooperation organization third-party testing, exempted from inspection certification of enterprise management, the management of the quality of agricultural products. Specific information model is shown in figure 2.

![Agricultural products supply chain management information platform model](image)

Figure 2. Agricultural products supply chain management information platform model.

In figure 2 model, farmers is to point to in accordance with the modern contractual relationship, and standardized base, agricultural economic organizations, agricultural planting and breeding enterprises signed contracts. According to the requirements of
the contractual relationship, farmers should abide by the contract, provide healthy, fresh produce, and accept the organizations, enterprises and agriculture administration department of inspection and testing. To release this agreement cannot meet the standards and health requirements of farmers, the cause of the loss shall be investigated for responsibility. Agricultural administrative department of the irregular sampling observation of agricultural products, and excellent qualified agricultural products in a timely manner through the information platform, network media, the unqualified products and the implementation of "zero tolerance" brand, let the poor agricultural products no living space. In the model, information detection need the support of information platform and all the query service (see figure 3), through the establishment of security traceability system of agricultural products, agricultural products id, for sure, consumers and businesses can pass information platform for real-time query, ensure the quality and safety of agricultural products, at the same time, should for the agricultural economic organizations, the standardization base, the enterprise brand.

![Anti-counterfeiting traceability information model of agricultural products.](image3)

Figure 3. Anti-counterfeiting traceability information model of agricultural products.

In figure 3 model, through the establishment of anti-fake tracing system of agricultural products, agricultural products ID information has been over into the circulation of agricultural products, consumers and businesses to produce ID card recognition will make the supply chain management information platform.

**Cash flow management information step by step**

With the rapid development of e-commerce and information technology, the use of third-party payment platform has become increasingly extensive and convenient. Hainan province should take advantage of the third party payment platform, promoting the province agricultural products between provincial and national professional organization for economic cooperation and supermarkets, wholesale trade, gradually achieve capital management information.
CONCLUSIONS

Hainan regional economic development cannot leave the perfect agricultural products market and fresh agricultural products, constructing Hainan agricultural products supply chain operating model, not only can meet the needs of economic and social development of Hainan province, still can lead to the pearl river delta, China ASEAN-Free Trade Area base construction of agricultural products, provide more opportunities for the city development. With the norms of market behavior, base for agricultural development demand, the formation of agricultural products brand, and the role of the government management into, consumer recognition of brands, production, sale, storage and transportation of agricultural products, management will be more scientific.

REFERENCES