

# Logistics Management of Tobacco Enterprises Under Supply Chain System

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**Objectives:** This paper studies the logistics management of tobacco enterprises under the supply chain system. Using the knowledge and theory of supply chain management and logistics, this paper studies the method of constructing supply chain and promotes the reform of tobacco industry and the development of logistics construction. **Methods:** This paper makes a systematic and comprehensive research by using JIT method. Based on reality and overall situation, make a comprehensive and systematic strategic plan for the development of tobacco industry. This paper analyzes the current situation of tobacco supply chain management, and puts forward the countermeasures to solve the current situation of tobacco supply chain. **Results:** Tobacco logistics and supply chain management in China has just started, is still in the exploratory stage, and there are still many imperfections and areas that need to be improved. Although many tobacco enterprises have initially built cigarette logistics centers with Municipal Bureau companies as the main body, the information construction has also reached a certain level. Overall, the integration of resources between industrial and commercial enterprises is far from enough. At present, only some provinces and cities have realized the logistics resource sharing of industrial and commercial enterprises in the same city, and the informatization has also reached a high level. The phenomenon of repeated logistics construction in the whole tobacco industry is still serious. **Conclusion:** In order to realize the integration of logistics resources in the whole industry and reduce the overall cost, tobacco companies should first strengthen the joint reorganization of the industry and establish large tobacco industry groups. Secondly, efforts should be made to realize the organizational structure adjustment and business process re-engineering of industrial enterprises. Thirdly, on the basis of the existing logistics level, establish a third-party logistics company across administrative regions to realize the informatization of the whole cycle of cigarette distribution..

**Key words:** tobacco enterprises, tobacco industry development, logistics resource integration, full cycle information management.

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Since the State Tobacco Monopoly Bureau put forward the important strategy of "telephone ordering, electronic settlement, online distribution and modern logistics" in 2002, all localities have also begun their own logistics development planning. Since 2004, the State Tobacco Monopoly Bureau has proposed to cancel the qualification of independent accounting legal person of county-level tobacco companies<sup>1</sup>. All localities have begun to restructure their logistics processes, establish tobacco distribution centers and start the construction of tobacco logistics system<sup>2-3</sup>. Since the implementation of the system of separation of industry and Commerce in the tobacco industry, the new business operation mode has made brilliant achievements in tobacco enterprises. However, due to the reasons of system and mechanism, the market competitiveness of China's tobacco industry has a big gap with foreign tobacco enterprises, such as many enterprises lack a clear market strategy, do not fully establish a market-oriented organizational structure, and the business process is not smooth enough<sup>4</sup>. In addition, information technology has become the core competitiveness of foreign tobacco enterprises, but many domestic tobacco enterprises lack systematic and complete planning, resulting in blind investment. Logistics construction is mostly a logistics center established with local municipal bureaus (companies) as the main body<sup>5-7</sup>. However, due to the lack of long-term unified planning of the tobacco industry, there are inevitable problems such as repeated construction and weak overall competitiveness of the industry<sup>8</sup>. From the perspective of long-term strategy, the establishment of logistics system in tobacco industry must undergo long-term development and improvement, especially to re-examine the logistics operation of tobacco industrial and commercial enterprises from the perspective of supply chain. In the increasingly severe market competition environment, the process reorganization of tobacco industry is imperative.

## METHODS

### Current Situation Of Supply Chain Management In Tobacco Industry

The competition in the 21st century has shifted from the individual competition between enterprises to the competition between supply chains. It is precisely because of the emergence of supply chain management that logistics management can be separated from production and sales and become an independent management mode<sup>9-10</sup>. The following are two different supply chain management modes:

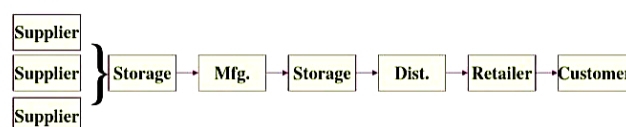


Figure 1 Manufacturer driven supply chain management mode (manufacturer driven)

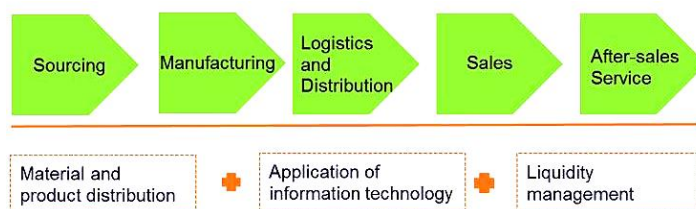


Figure 2 User driven demand chain management (user driven)

As can be seen from Figure 1, the manufacturer plays a leading role in the whole supply chain, and the manufacturer's demand drives the production of suppliers and distributors and the demand of retailers and consumers. In this way, the integration between enterprises is low, usually the inventory in the whole supply chain is high, and the response ability to demand changes is poor<sup>11</sup>. Figure 2 users play a leading role in the whole supply chain and are the core driving the production and sales of all other enterprises<sup>12</sup>. In this way, the integration of the whole supply chain is high, the information exchange is rapid, and the inventory of the supply chain operated in this way is low.

Due to the particularity of national monopoly, the supply chain model of tobacco industry adopts the push type of Figure 1. Before the introduction of logistics management concept, it adopts the supply chain management mode of decentralized, one-level

and integrated three flows (information flow, logistics and business flow), as shown in Figure 3.

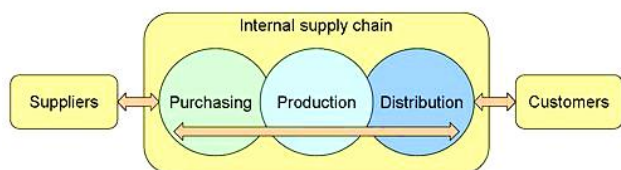


Figure 3 Traditional tobacco industry supply chain process

After introducing the concept of logistics management, logistics began to separate from all links and become a pillar industry independent of tobacco companies and supporting the supply chain operation of the whole tobacco industry. The separated tobacco industry supply chain process (as shown in Figure 4):

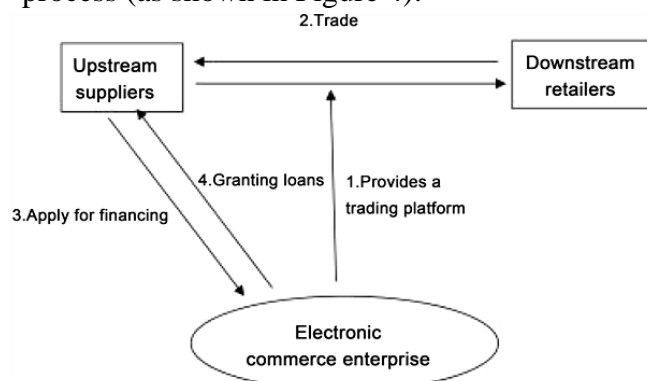


Figure 4 Modern tobacco industry supply chain process

Among them, the suppliers are mainly composed of tobacco suppliers (tobacco farmers), cigarette accessories suppliers, cigarette machinery manufacturers, tobacco science and technology research institutions, and the distribution network is mainly composed of local tobacco companies and retailers. From the comparison before and after the process transformation in Figure 3 and Figure 4, it can be seen that after the introduction of logistics management, the tobacco industry began to shift its focus from production to logistics management. Before fully opening the domestic tobacco market and other potential entrants into the tobacco market, the tobacco industry must first

establish a logistics network system with perfect and sound tobacco industry itself and outlets all over the corners of major cities in China.

### Analysis of Problems in Tobacco Supply Chain

(1) The tobacco supply chain lacks seamless connection<sup>13</sup>. As a special national monopoly industry, the tobacco industry originally implemented the unified leadership, vertical management and monopoly of agriculture, industry, trade, production, supply and marketing, people, finance and materials. The whole tobacco industry should be a complete supply chain, but in fact, due to various reasons, the supply chain of tobacco has not realized seamless connection. In the whole supply network, the cigarette manufacturing network obviously has the color of planning, while the distribution network obviously has the characteristics of market economy. Moreover, due to the refinement of professional division of labor, cigarette industrial enterprises are only responsible for cigarette manufacturing, while Cigarette commercial enterprises are only responsible for sales. Therefore, there is a problem of poor information between various departments.

(2) The concept of logistics management does not run through the whole tobacco supply chain. As a complete tobacco supply chain, production, supply and marketing are a whole. However, from the current network construction and logistics investment construction of tobacco, it can be seen that it is mainly concentrated in the cigarette sales stage in the middle and lower reaches, while the cigarette production and raw material procurement in the upper reaches of the supply chain have not realized logistics management<sup>14</sup>. Therefore, in order to realize the integration of tobacco supply chain, the logistics of the whole industry must be integrated to make the upstream and downstream logistics a complete whole.

(3) Poor information leads to "bullwhip effect". Because the tobacco supply chain has not realized seamless connection, the current situation of tobacco supply, production and marketing integrated management can not meet the management requirements of the supply chain.

### **Countermeasures To Solve The Problems In Tobacco Supply Chain**

(1) Pay attention to the construction and management of upstream import logistics. Logistics always runs through the whole tobacco supply chain system, so we should integrate the upstream supplier management into the whole logistics system and implement the integrated management of logistics. The integration of supply chain network is the basis and guarantee to realize the logistics management of the whole upstream supplier. In China, due to the national monopoly of tobacco, most of them adopt the mode of "farmers + market", so it is necessary to establish a supplier management information system in the upstream to share the supply and demand information of farmers' cigarette raw materials and cigarette industry enterprises.

(2) Strengthen the control and management of downstream export logistics. The downstream of the tobacco supply chain is mainly composed of local tobacco companies and retailers<sup>15</sup>. At present, the network construction in the tobacco industry is mainly carried out for cigarette distribution logistics. There is not much attention to the needs and satisfaction of end customers. The ultimate goal of logistics is to achieve the highest customer satisfaction at the lowest cost. Therefore, an effective customer relationship management system must be established for the downstream export logistics of tobacco supply chain to provide a channel for tobacco enterprises to collect customer demand.

(3) Implement Vendor Managed Inventory (VMI) for midstream. Vendor managed inventory is formed on the basis of mutual benefit. The middle reaches of the tobacco supply chain include cigarette industry enterprises and cigarette sales enterprises. As a part of the tobacco supply chain, cigarette industry enterprises and cigarette sales enterprises are two different enterprises in a whole interest. Therefore, the implementation of supplier managed inventory can not only enable cigarette industry enterprises to effectively arrange production and purchase management of

cigarette raw materials, but also reduce the inventory pressure of cigarette sales enterprises.

## **RESULTS**

### **Basic Ideas And Objectives Of Modern Logistics Construction In The Industry**

As a modern enterprise management technology and organization mode, modern logistics is mainly the organic integration and coordinated operation of various operation links of procurement process, production process, sales process and reverse logistics (return, recycling, recycling and waste). Ensure that the "things" are delivered to the destination in time, accurately, quickly and safely, and minimize the cost of the "things" in the flow process, so as to obtain the maximum profit and have the maximum competitiveness. Inventory is the largest logistics cost item. The strategy to effectively reduce inventory must be from the perspective of supply chain management. Cigarette distribution will be separated from commercial links, and a professional logistics distribution company will be established to specialize in cigarette distribution business. Commercial enterprises will focus on customer relationship management, collect market information, develop the market and improve the ability to control the market. Through the development of modern logistics in the industry, we should finally establish a real-time industrial economic operation management decision-making system and industrial and commercial enterprise production and operation decision-making management system based on modern supply chain management theory and modern information technology, so as to further improve the overall competitiveness of industrial economic operation.

Purpose of industry modern logistics construction: First of all, only by establishing a modern industry logistics system can we break the limitations of enterprises' own system, avoid repeated construction, connect one business flow information island to become a network of market competition subjects and industry macro-control services, and serve the establishment of industry modern circulation subjects. Secondly, the establishment of a unified modern logistics system can not only give full play to the role of the existing logistics system and facilities, but also allocate resources reasonably. It can also more

effectively solve a series of problems, such as limitations, information islands, repeated construction and so on, which cannot be solved by the separate logistics system. Create a good circulation environment for industrial and commercial enterprises, cultivate market competitors with vitality and vitality, effectively reduce storage, transportation and circulation links, reduce costs and improve benefits. In addition, by using the modern circulation system and introducing the concept of supply chain logistics and management, we can comprehensively improve the management level and core competitiveness of enterprises, grasp the market demand more quickly and accurately, and effectively organize the production, operation and management activities of enterprises.

### **Steps Of Supply Chain Management And Modern Logistics In Tobacco Industry**

To realize the seamless connection of tobacco supply chain and enhance the competitiveness of the industry as a whole, only starting from China's national conditions, strengthen the joint reorganization among enterprises and the business process transformation of industrial enterprises, and use modern information and e-commerce technology to establish a modern logistics system based on supply chain management.

The first step is to rely on the monopoly system, vigorously implement the strategic restructuring of tobacco enterprise structure, expand and strengthen China's tobacco enterprises, and establish several super large cigarette industry groups with cigarette production scale across administrative regions in China according to the principles of asset integration and appropriate scale operation.

The second step is to adjust the organizational structure of cigarette industry enterprises and reengineer the value chain. In the current situation of weak, small, scattered and chaotic Chinese tobacco enterprises, realizing management reform, standardizing their own management, emphasizing the establishment of modern enterprise system guided by market

economy, and growing into a cigarette industry company with strong muscles and bones that can compete with large international tobacco groups should become the goal and direction of all cigarette industry enterprises.

The third step is to build a tobacco e-commerce system and a third-party logistics company. On this basis, use information technology to further study the implementation of logistics, and finally establish a national unified and smooth logistics system to enhance the overall competitiveness of the tobacco industry. Realize the goal of logistics construction of China's tobacco industry.

### **Corresponding Countermeasures For Establishing Large Tobacco Industry Groups Across Administrative Regions**

(1) Firmly grasp the opportunity of adjusting the cigarette consumption tax rate, rectifying and standardizing the market economic order nationwide and breaking the regional blockade, seize the opportunity of China's imminent accession to the WTO, and use the market mechanism of survival of the fittest to reduce the industry's excess and backward production capacity. Considering the impact of the closure of small cigarette factories on the fiscal and tax revenue of local governments, the "Redemption" methods such as the closure of small cigarette factories and the paid transfer of tax indicators can be implemented.

(2) Several large tobacco industry groups across administrative regions shall be established by means of voluntary enterprises and through various forms such as alliance, merger and reorganization. So that these group companies can be market-oriented, supported by scientific and technological innovation and technological progress, promote the optimization and upgrading of product structure and industrial structure through the realization of economies of scale and mutual competition, vigorously enhance the international competitive strength, and prepare for becoming one of the world's top 500.

(3) Abolish the "three in one" operation and management mode, break the regional blockade with provinces, prefectures (cities) and counties as units, and lay a solid foundation for realizing the national unified big market and circulation.



(4) In the process of implementing the organizational structure adjustment and asset reorganization of the national cigarette industry, reform the assessment methods and reward methods.

### Construction Of E-commerce System In Tobacco Industry

The basic framework of e-commerce refers to the complete operation basis for the realization of e-commerce technology from technology to general services. The framework of e-commerce is the technical guarantee for the realization of e-commerce. The basic framework of e-commerce can be divided into three levels, two pillars and one system.

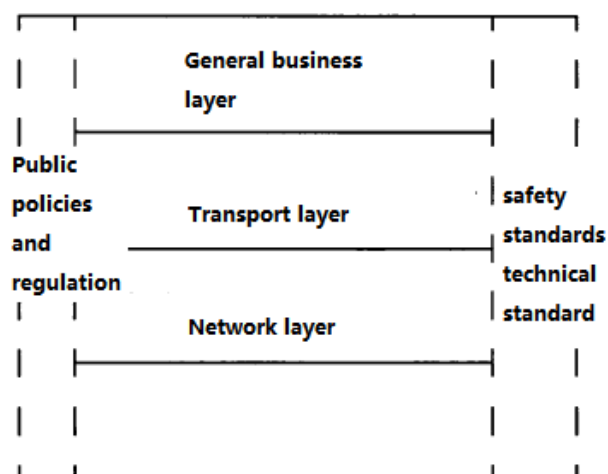


Figure 5 Basic framework of e-commerce

E-commerce is widely used because it has many characteristics and advantages over traditional business activities:

(1) Transaction virtualization. E-commerce transactions are carried out through the computer network represented by the Internet. From trade negotiation, contract signing to capital payment, there is no need to carry out face-to-face. They are all completed through the computer Internet. The whole transaction process is completely virtualized. For the buyer, the computer management organization can be used to apply for the domain name, make its own home page and let the product information go online. Through the development of virtual reality, BBS and other technologies, e-commerce enables

itself to select advertisements according to its own needs, feed back the information to the seller, sign electronic contracts, complete transactions and make electronic payments through the exchange of information. The whole transaction is carried out in the virtual environment of the network.

(2) Transaction transparency. The whole process of e-commerce transaction from negotiation, contract signing, payment for goods and delivery notice is carried out on the network. Smooth and fast information transmission can ensure the mutual check of various information and prevent the circulation of forged information. For example, in a typical license EDI system, due to the strengthening of the communication and verification of the issuing unit, it is not easy to leak the false license.

(3) Transaction efficiency. Due to the standardization of business messages in Internet trade of e-commerce, business messages can be transmitted and processed automatically all over the world. In the traditional way of trade, people must participate in the transmission of information by letter, telephone and fax, and each link takes a lot of time. Sometimes, due to personnel cooperation, work and rest, the transmission will be delayed and the best business opportunities will be lost. E-commerce overcomes the shortcomings of traditional trade methods, greatly shortens the transaction time, and makes the whole transaction very fast and convenient.

The indispensable success factors of constructing e-commerce system:

First, adhere to the core position of business and pay attention to business change. Business process is the basis of e-commerce system. Business operation characteristics and business volume are the basis for the selection of technical route. E-commerce system should adapt to and support the reform of tobacco industry and provide necessary information support for improving industry efficiency and industry competitiveness.

Second, pay attention to internal contradictions and pressures. The implementation of e-commerce system will inevitably have business process transformation, which will change some existing management control methods and operation processes. Individuals in the organization may fear these changes, and may also affect the vested interests of some people. Therefore, there will be internal contradictions and pressure in the stage of demand research, planning and implementation. To correctly deal with these internal

obstacles, on the one hand, the implementation of e-commerce should be consistent with the reform ideas and organizational changes, on the other hand, timely communication and training should be strengthened to alleviate the internal pressure.

Third, emphasize interaction and interface. E-commerce is positioned between enterprises and between enterprises and customers. It is not a specific process and step within an enterprise. For example, regard the internal management system or ERP system of an industrial company as a black box, pay attention to the business interaction process of industry and commerce, and pay attention to mutual interface rather than internal processing.

Fourth, match with the project implementation. The construction of e-commerce system needs to be constructed in stages according to different projects, unify the business and system vision, and clarify the integration requirements and evaluation control of each subsystem in the later stage according to the overall plan of e-commerce.

## DISCUSSION

### Key Points Of Supplier Client Management

Supplier shared information includes: tobacco factory production plan query, current inventory query of cigarette raw and auxiliary materials, daily report of receipt, delivery and storage of cigarette raw and auxiliary materials, summary of receipt, delivery and storage of cigarette raw and auxiliary materials. The purchasing supplier operation functions of tobacco factory include: replenishment plan analysis, consignment management (including warehousing consignment and outbound consignment), system management, etc.

### Inventory Management Method

Inventory is the freezing of working capital. Reducing inventory means sufficient working capital. Increasing inventory will lead to shortage of working capital. Slow capital turnover will increase costs and affect operating efficiency. Therefore, we must constantly carry out reform and maintain the modernization of enterprise system, and supply chain management and effective inventory management are effective measures to implement business reform.

Inventory has the function of balancing production, strict supply and maintenance, and keeping prison sales. It can accumulate olives by taking advantage of risks. However, it is also the "buffer" of process obstruction. It is not only the product of information distortion, occlusion and delay, but also the "safety belt" of poor product quality and the "comfort cushion" of inefficient work. Therefore, inventory covers up various contradictions of poor management.

Joint inventory management is to treat the inventory of both supply and demand as a whole and share resources. Joint inventory management needs to be based on the total quality management of the supply chain, on the premise of symmetrical exchange of information, and guaranteed by the accuracy and seriousness of the plan and the integrity of both enterprises. Therefore, joint inventory comprehensively reflects the level of supply chain management. There are many ways of inventory management. Different inventory management strategies can be adopted according to different materials and different suppliers. For materials exclusively supplied, including materials supplied by "cold backup" suppliers, or materials supplied by one supplier and supplemented by other suppliers, try to use the minimum inventory consignment system agreed by both parties, and the supplier shall manage the inventory, that is, VMI mode. By implementing VMI, suppliers and tobacco factories can focus on the same goal - how to sell more goods to end consumers more effectively. Suppliers have changed their efforts from selling products to tobacco factories to helping tobacco factories sell. This is the essence of VMI technology. There are many advantages to having inventory managed by suppliers. The supplier can flexibly adjust the production plan and delivery plan according to the demand of the tobacco factory at any time, so as to meet the needs of users and save the most. In this way, both supply and demand sides can reduce costs and improve benefits.

Tobacco logistics and supply chain management in China has just started, is still in the exploratory stage, and there are still many imperfections and areas that need to be improved. Although many tobacco enterprises have initially built cigarette logistics centers with the Municipal Bureau (company) as the main body, the information construction has also reached a certain level. However, in general, the resource integration between industrial and commercial enterprises is far from enough. At present, only Anhui tobacco has realized the logistics resource

sharing of industrial and commercial enterprises in the same city, and the informatization also has a high level. The phenomenon of repeated logistics construction in the whole tobacco industry is still serious. This paper stands at the height of the overall situation, in order to improve the customer service level, reduce the overall logistics construction cost and enhance the overall competitive strength of the industry. This paper puts forward the construction method of tobacco supply chain and the planning and implementation of logistics construction under the environment of e-commerce, points out the feasibility and necessity of vigorously developing third-party logistics, and gives a specific implementation scheme.

### Conflicts of Interest Disclosure Statement

The authors declare no conflict of interest in the authorship or publication of this work. The authors declare no sponsored financial sources by any organization related to tobacco production for the undertaken study.

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