

# Research on Innovative Mode of Logistics Network in E-commerce Era

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**Abstract**—The shopping online and E-commerce are developing in full swing, which requires the higher from the matched logistics industry. As the emergence of “Rookie Network”, cloud logistics has been developed in the new logistics mode under surrounding of E-commerce. Our objective in this paper is to build the new cloud logistics mode in E-commerce era, on the basis of new innovative network mode of modularized design. It points out the current problems and developing trend of cloud logistics mode, and prospects the future of the cloud logistics based on the development of cloud logistics. Taking into account of the features of cloud logistics and case of XingChenJiBian company (STAR EXPRESS), this paper focuses on how better to run cloud logistics service mode in E-commerce era under the modularized design rule of the network industrial structure, and realize the industrial win-win layout by the common resource. It is necessary for the government to intervene in order to master and supervise the information of whole logistics industry clearly, which is benefit for the orderly, healthy and rapid industrial development.

**Keywords-** E-commerce; Cloud logistics; modularized ;

*Network innovation ; Innovative Mode*

## I. INTRODUCTION

We are being experienced the “promotion of innovative mode” due to the knowledge & capital globalization from 1990s, which is upgraded from the linear innovative mode described by Rothwell, R. in 1978 to network innovative mode based on modularized design (Yao Kai, Liu Mingyu, Rui Mingjie, 2009). The e-commerce logistics is developing in full swing, the cloud logistics mode has become the popular trend, and lots of e-commerce logistics platforms are also developed in succession correspondently.

## II. E-COMMERCE LOGISTICS AND CLOUD LOGISTICS

### A. E-commerce logistics

E-commerce refers to the physical and flow process to achieve the transfer of business flow in the e-commerce transaction, such as acceptance, storage, package, transportation, distribution, and conveyance. With the increasing developed shopping online, e-commerce logistics gets more and more important.

The typical e-commerce logistics mode includes self-built logistics distribution system or called as self-operated mode, shared logistics system mode, third-party logistics and fourth party logistics, logistics alliance and the other modes, the different modes have the corresponding advantages and disadvantages (Li Aimin, 2008; Hong Tao, 2012).

### B. Cloud logistics

The origin of “cloud logistics” and rapid development are inseparable with e-commerce. It is Chairman Chen Ping of XingChenJiBian Express Co., Ltd to propose the concept at the earliest time (2009), he thinks that cloud logistics is a complete service solution, which utilizes cloud computing service platform and large scale cloud computing processing ability to complete the information required from each link of logistics.

The cloud logistics is an information platform to connect the commercial flow online and logistics offline around the consumer demand in time and space mainly, which satisfies the logistics information requirement of government, industrial & commercial enterprises, logistics enterprises and common users, it is used for e-commerce logistics, the information is also original from e-commerce. Information collection, information process and information transmission are the critic techniques of cloud logistics platform (Zhang Ming, 2011). Therefore, all of researches on cloud logistics in academia are developed in the surrounding of e-commerce. Ren Yonggui calls the new logistics management mode as “cloud express” mode when he discusses the “cloud logistics” mode in the surrounding of e-commerce, and he thinks that the mode is an exploring mode between the direct operation and league mode, which has absorbed the advantages of two modes (Ren Yonggui, 2012).

## III. INNOVATIVE NETWORK MODE OF E-COMMERCE LOGISTICS

The network industrial chain needs a leader (called as master of industrial chain popularly) to coordinate the value of innovation process, which is called as platform leader too, and it is the company that takes the promotion of its own industry innovation as target (Annabelle Gawer and Michael A., 2002). Usually, the platform leader creates an industrial win-win layout by the own efforts to

obtain the platform leadership position, and it is different from the linear innovation mode that relies on the authoritative manner. The actors of network industrial chain include: module generating enterprises (containing system integration), customer, and complementary

products manufacturing enterprises (Yao Kai, Liu Mingyu, Rui Mingjie, 2009). We can use the figure to show the relationship of actors of network industry in the cloud logistics mode of e-commerce, as shown in Fig .1 .

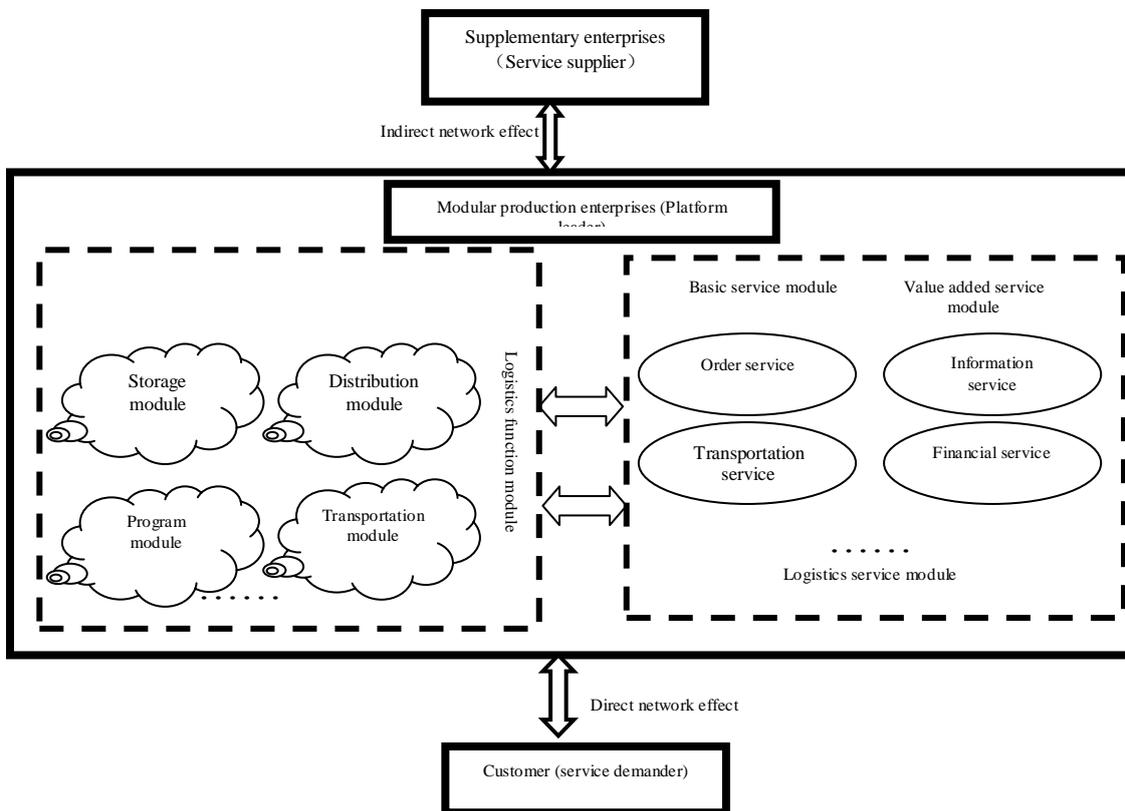


Figure 1. Network Industrial Mode of E-commerce Cloud Logistics

A platform operator is necessary to act as the platform leader in the operation process of cloud logistics mode of e-commerce, and promote the industrial win win layout, see Fig .1. The platform operators of cloud logistics platform can integrate the scattered logistics resource by the support of cloud computing platform, provide the complementary production enterprise and customers with logistics function module and logistics service module, make the clear standard logistics information, intensify the logistics resource greatly, so as to improve the logistics efficiency and reduce the logistics costs. It means that many express parcels from all over the country can be combined into one package under service of cloud logistics mode to reach the destination with the fasted time and lowest cost (Wen Yuda, 2013).

#### IV. CASE ANALYSIS --- XINGCHENJIBIAN EXPRESS

##### A. Background

XingChenJiBian was established by the original president Chen Ping of ZhaiJiSong and several partners in 2009, and it was invested by Alibaba group in March 2010. Beijing XingChenJiBian Express Co., Ltd ( Hereinafter referred to as XingChenJiBian) and

Shenzhen XinFeiHong Express Co., Ltd were amalgamated officially in October 2011, which is the 1<sup>st</sup> national express company oriented on the e-commerce B2C and B2B services professionally, and it is also a platform of “cloud express” with the operation port, distribution, shift vehicles and the other transferring resources open to society completely. The direct customers, peers and league business can realize the national goods distribution on the platform of “cloud express”. All of core contents of B2B and B2C e-commerce express have been contained nearly to satisfy the service requirement of final users on “cloud platform”.

##### B. Cloud logistics service mode frame of XingChenJiBian

The traditional linear innovation mode has provided an overall design, and customer can choose yes or no only; the more choices are available from network industrial chain for customer through the system modular design and modular parallel experiments. A new experiment is added for each additional module of system, then the whole system value will be increased to the original value multiplied by the square root of the number of modules, the module options of innovator have been increased thanks to the modular decomposition (Baldwin and

Clark, 2002 ). The value innovation is realized by the modular production system which provides more options for the customer (Yao Kai, Liu Mingyu, Rui Mingjie, 2009).

The "cloud logistics" of XingChenJiBian has described a extended logistics business mode based on "cloud computing" technology. XingChenJiBian has acted as a leader of platform which constructs the function module and service module by the "cloud logistics"

platform. From one side, a series of resources have been collected and supplied, such as the orders from lots of national delivery companies; on the other side, the magnanimous shipping orders are classified as the region, time, types, and urgency etc., and then sent to the complementary production enterprises (the other express companies) by the specified transportation company, finally they are sent to recipients, as shown in Fig .2.

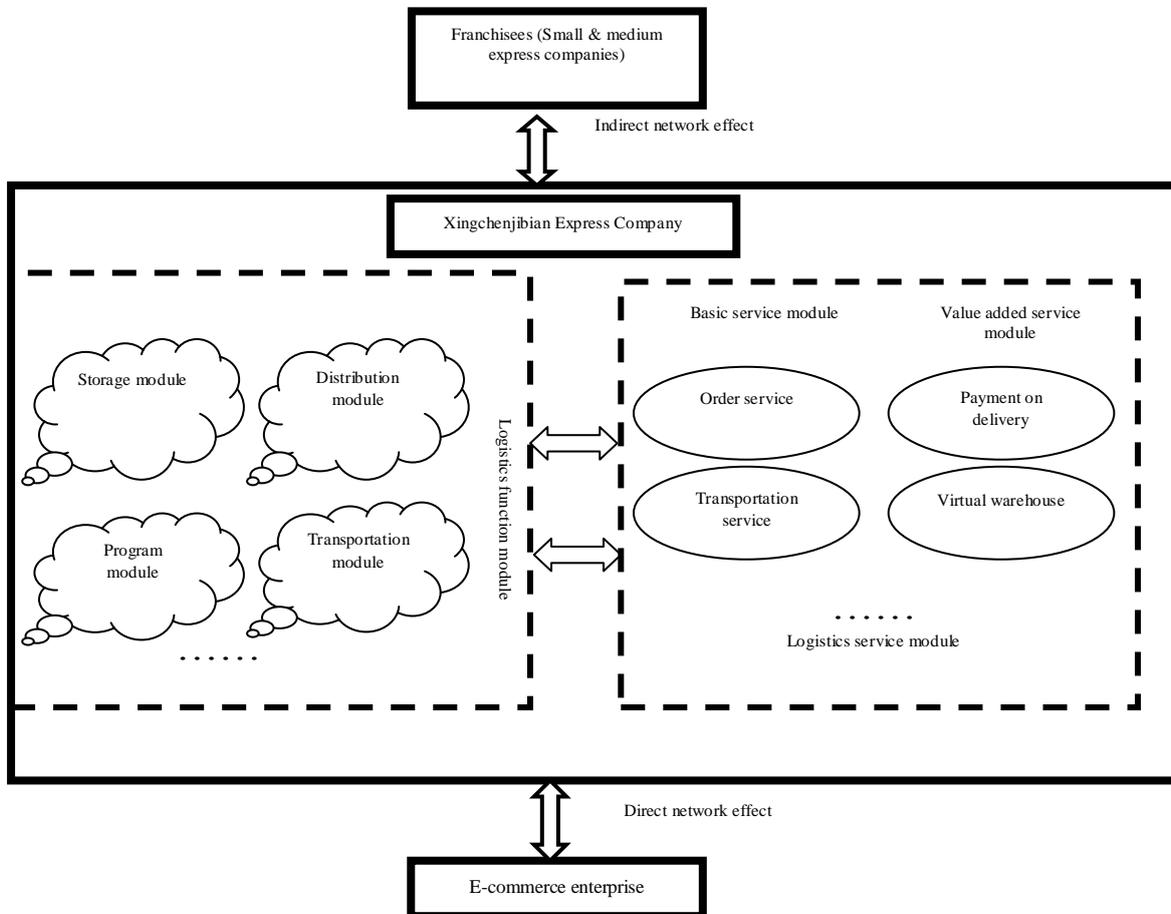


Figure 2. Cloud Logistics Service Mode of Xingchenjibian

XingChenJiBian is a new company combined with direct management and league mode, the terminal distribution is league mode, the constructions of transfer station, operation center, routes, and shift vehicles are managed by XingChenJiBian directly, all of transfer station, operation center and direct management take the service to franchisees as the purpose, which assume the storage, selection, package, distribution and the other function of cargos, they do not take or send cargos, or compete with franchisees for the customers always, which is the most difference of XingChenJiBian from the other express enterprises.

#### V. INNOVATIVE NETWORK MODE CONSIDERATION IN E-COMMERCE ERA

The exploration of XingChenJiBian cloud logistics mode has been failed finally with lots of consideration for

us. As a courier company, it seems a bit overwhelmed for XingChenJiBian to act as platform operator. The same as most of courier companies, XingChenJiBian has expanded rapidly by the league form, the coverage of national network reaches 100%. Franchisees are a very important link of "cloud express" platform, it can be called "success from league mode and failure from league mode" for XingChenJiBian, which has started the market and expanded market with the less capital, while it is difficult for one company to uniform the service standard by league mode. It is commendable that XingChenJiBian has become the value added service of traditional logistics into the standard service, such as payment on delivery, unpacking to inspect, refusal to return goods, and distribution of nighttime. However, it has expanded the blind to control and manage undoubtedly. The customer return rate tends to go up since the distribution quality can

not be guaranteed; XingChenJiBian has not only lost the steady cash flow from the payment on delivery, but also increased the secondary logistics costs greatly, even including the 3<sup>rd</sup> cost of logistics. XingChenJiBian is a private express enterprise only, which goes ahead with load after acquisition of Xinfeihong. Additionally, the capital chain plight is doomed from the league mode at the beginning.

## VI. OUTLOOK

The “cloud logistics” service mode concept is correct even if “cloud logistics” service mode of XingChenJiBian has encountered some insurmountable problems during the construction and operation and failed ultimately, and fits the development needs and trends of e-commerce. Undoubtedly, the cloud logistics mode pioneered by XingChenJiBian will become the major trend of logistics development although the attempt is not very successful, and it has accumulated the valuable experience for the growth and development of our national cloud logistics (Wen Yuda, 2013).

The “cloud logistics” mode under e-commerce surroundings is different from the traditional logistics operation mode, and the main features include:

### (1) Platform operator

It is the best that the platform operators are led by the large e-commerce enterprise or Internet trading platform operators or government to cooperate with the logistics enterprises, such as SF and express enterprises of “3 tongs 1 da”, and it is the best the financial institution to participate in, and the enterprises share the profits as the capital share. Furthermore, establish the unified industrial standard, merge the original self-built logistics system, integrate the multiple logistics resources, establish the large logistics base in large cities like Beijing and Shanghai, and spread the socialized warehouse system all over the country gradually. The sufficient distribution demands of e-commerce enterprises can be satisfied basically in this way, the stable orders and sufficient cash flow can meet the demands of orders and capital chains of cloud logistics platform. XingChenJiBian the same as a “small horse” is not able to pull the express industrial “big carriage” across the country. Alibaba group, Yintai group, Fuxing group, Fuchun group, SF group, 3 tongs 1 da (Shentong, Yuantong, Zhongtong and Yunda), and the relative financial institution have established the project “China Smart Logistics Backbone Network” (called as CSN) officially on 28 May 2013, and “Rookie Network Technical Co., Ltd” is established by the partners jointly. Thus, the “rookie” platform is led by the large network operator Alibaba with the relative rationale share structure, so it can go for longer term.

### (2) Competence of integration

A large quantity of logistics resources and capabilities should be integrated for the cloud logistics platform. At the same time, the demands of e-commerce enterprises are integrated effectively to supply the convenient and cheap transaction channels and service platform for the sellers and buyers of logistics service. “Star Express” has invited lots of technique and management talents who have senior status in the express & IT industries to develop the latest system independently, and it integrates with lots of function which has covered

all of core contents of B2B and B2C e-commerce express nearly to satisfy the service demand of final users on “cloud express”.

### (3) Standardized service

According to the logistics service demands of E-commerce enterprises, the different logistics service, league logistics service and capabilities are integrated for the cloud logistics by the service collection, value added business etc, supply the transparent, effective and standardized service for the customers. XingChenJiBian has supplied lots of customer information for the franchisees actively to help their growth and sufficient orders. For instance, the information of Taobao enterprises information, the franchisees can use the information to develop and expand the customers in the contracted area. XingChenJiBian has established network university in order to help the franchisees to make the better business, make each franchisee grow into the professional practitioners by the continuous training, improve the operation standards of final distributors of XingChenJiBian and scientific enterprises management of franchisees.

Ideal mode of cloud logistics: the fourth-party logistics supplier with abundant capital has established the large scale logistics base in major cities, such as Beijing, Shanghai, and Guangzhou, the uniform information is collected, analyzed and processed through the powerful information management platform. At the same time, the social transportation, storage and distribution resources are integrated; and the scattered small third-party logistics enterprises can arrange the transportation capacity and optimize the internal management by the published information flexibly. The Rookie Network established in May 2013 is a successful example, which has integrated e-commerce platform operators, traditional commercial enterprises, large express enterprises and financial institutions to go in many ways with the stable steps. Thus, the “rookie” platform is led by the large network trading platform Alibaba with the rational share structure relatively, so it can go for longer term.

For the investment operators to join the platform and the certification of franchisees, it is necessary for the government to intervene in order to master and supervise the information of whole express industry clearly, which is benefit for the orderly, healthy and rapid industrial development. The government should also integrate, improve or build the infrastructure (warehouses, lines, transfer station etc.), rely on the credibility of government and ensure with various social resources to escort the construction of “cloud express” platform.

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