

# Innovation and Development of Logistics in Supply Chain by the Internet

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**Abstract:** With the vigorous development of Internet economy, this paper analyzes the performance of macro logistics in the Internet Era and current situation of micro logistics such as "last mile""Cloud computing".Combined with Jingdong Mall self-run logistics mode and the implementation of the Green hand logistics network, we proposed to classify logistics by "multimodal transport""LTL transport". The development of multimodal transport is guided by the pattern of Europe and America.The combination of Amiba model with LTL transport is proposed. It is concluded that the innovation development is the highlight of the logistics industry, which leads the development of the industry.

## 1. Introduction

Internet economy has gained rapid development in recent years, and has now become an important part of China's economic structure. At the same time, under the promotion of "One Belt, One Road" and "Internet Plus ", many enterprises engaged in the logistics industry are seizing the opportunity to innovate, transform, upgrade and lead the new commercial economy.

## 2. Logistics development in the Internet Era

### 2.1 Macro logistics

The outstanding manifestation of macro logistics lies in its large scale. Its advantage is to improve the efficiency of logistics operation by using the principle of economies of scale, while inadequacy is to ignore the variety and otherness of customers' needs. Without considering the multiply objectives of the services of logistics enterprises.Designing and evaluating logistics services without participation of customers.As the rise of the Internet has increased our internal and external contacts, transportation volumes have been increasing and infrastructure construction continues to improve.

### 2.2 Micro logistics

The characteristics of micro logistics research are specificity and locality. [1]From here we see that micro logistics is closer to the logistics of specific enterprises. Its research field is very broad. Then, in light of this article, I will discuss the hot issues in recent years. That's the last mile and cloud computing.

#### (1) Last mile

The Last mile distribution is the end link of the whole e-commerce logistics, and it is also the only opportunity for vendors and logistics service providers to meet face to face with customers in e-commerce environment. Finishing the last mile distribution is not only a guarantee for the smooth



implementation of the e-commerce logistics supply chain, but also a good opportunity to improve the customer experience and further promote the development of e-commerce[2].

The last mile is the last link in the logistics of quality, safety and efficiency, so the significance of the last mile is still significant.

### (2) Cloud computing

In China, people have seen Cloud computing in various areas, including TV, computer, online shopping. "cloud + client" is closely related to our life. However, the application of "cloud + client " is not much in the logistics field. This is because the network infrastructure is relatively weak. 2013, after the establishment of the Green hand logistics network, it works with delivery industry aiming at the spread of the Internet, including electronic surface, large data routing, single order, four level address library and other products. As of now, more than seventy percent of Chinese express have run on big data.

In the future, the competitiveness of express delivery industry has come out of competition of quantity and price, and technical competition will be the key. Data + computing + movement will produce a larger qualitative change, and " cloud + client " should be the industry standard, the express delivery 3.0 era necessities.

## 3. China's logistics innovation and development

### 3.1 *The mystery of Jingdong Mall self-run logistics*

Many people believe that Jingdong's success stems from the so-called "self-built logistics". Mr. Liu has also repeatedly promoted his team made of tens of thousands of people on various occasions. In fact, Jingdong's secret of success is not lying in "self-built logistics", but in Liu's keen recognition that "mail order logistics (or taobao logistics)" model used by most people is almost unsinkable. With the help of the abundant capital strength, Jingdong built this system and seized the pole position in the competition among this field. In the long run, such an operation may seem not reasonable enough, but in the short term it might as well be deemed as a rapid and effective way to build a logistic empire. The company practices what they believe and seizes the key to implementing "distributed storage," making sure the commodities will be positioned on the nearest neighborhood of customers' living zones.

### 3.2 *The implementation of the Green hand logistics network*

In Shenzhen, Since 2013 Jack Ma announced a high-profile " the Green hand network", combined with many financial institutions and express company, he plans to spend five to eight years building a network in the future , which can support the average 30 billion retail sales in each day, and can reach any parts of the country within 24 hours. Such a scheme is called "smart logistics backbone in China".

### 3.3 *Multimodal Transport*

From March 22 to 24 , the 2016 container multimodal transport Asia exhibition was held in Shanghai. A series of container multimodal transport products, such as "Central Europe class", "Central Asian class" and "Iron water transportation class" were unveiled. It is known that container multimodal transport is the advanced stage of logistics transport and is regarded as an important symbol of the country's freight modernization process. At present, the global multimodal transport is shifting its weight to China, and the multimodal transport development in China is ready to be developed, but people in the industry believe that there are still some bottlenecks to be solved.

The development of multimodal transport in Europe and the United States is far ahead in both technology and model. But the way in which Europe and the US are combined is slightly different. The European rail link is to hold the truck up to the floor of the train. Before that, you need to spin the bottom of the train out of the track to drag the truck onto the floor. However, the revolving technology of the floor of the train is the most difficult part of the whole process.

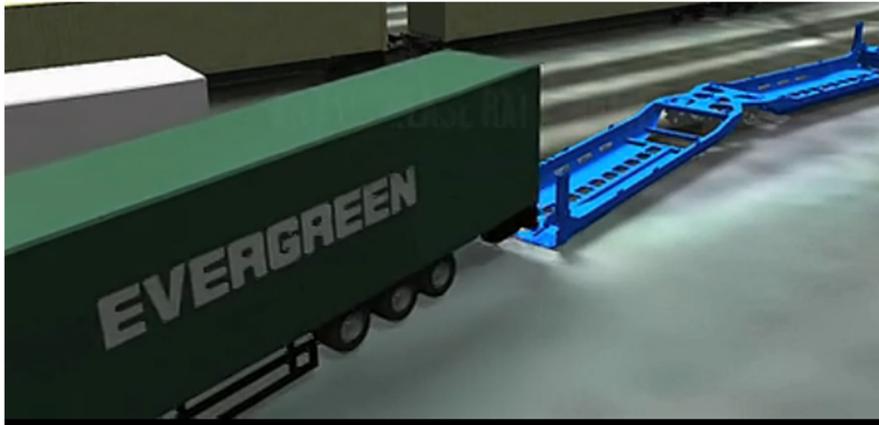


Fig.1 Public rail transport mode 1

I think the United States rail link is better, but the technology is more demanding. The following figure:



Fig.2 Public rail transport mode 2

When the car pulls the container to the station, it makes up the column directly, and when the train wheel is to bear the weight, lift the container car wheel.



Fig.3 Railway transportation

In this way, the average container car needs only one pair of wheels, and the container flat in our country is two pairs. The main thing is to save the steel plate weight of the container flat plate, the double machine can pull 150 knots, its capacity is immeasurable. Compared with Europe, it is an innovation, and the European approach is somewhat conservative.

As for the development of multimodal transport in our country, two methods can be followed. But I think the biggest obstacle is not technology, but standardization. No matter whether to adopt the European combined transportation mode or the American multimodal transportation mode, there must be strict facilities and the scale will produce benefits. This is a huge challenge for our country's uneven container transportation market for a long time.

### *3.4 LTL transportation and Amiba model*

LTL transportation also has many problems, LTL transportation market after more than 10 years of development has not changed, and the situation of the poor, the monopoly of large logistics enterprises has not yet exposed its "towering".

Amiba's business model stems from Inamori Kazuo's early entrepreneurial predicament. When the company was running, he was responsible for the development and marketing of the company. But when the company has grown to more than 100 people, he felt miserable and hoped that he had many parts and could join in every link of his work. To improve the situation, he divided the company into a small group called amoeba. And from the company internal selection of the amoeba leadership, and entrusted with the operation of the responsibility, thus to cultivate the consciousness of many operators leader. Through the replication of this model, the "amoeba" model and the company developed rapidly.

The Amiba model and China's LTL transportation seem to be two unrelated things. The former is a management model that has been widely used and achieved great success in Japan. The latter is a new field of China's logistics industry. How much is the connection between the two? Through the above characteristics, we can see some similar features:

#### (1) Structure match

Amiba is due to Inamori Kazuo felt that the development of enterprises to a certain stage, limited personal energy, and split the company into several groups, independent accounting and self-management by small groups. At present, China's LTL transportation is gradually realizing the evolution of this process, and the ultimate direction of its development is chain operation. For example: the more than 1400 world Arima outlets, Debon logistics more than 1300 outlets, more than 900 outlets, Kakichi express courier industry tens of thousands of receiving terminal. Moreover, some companies have adopted independent accounting and management mode for the management of their own outlets. It can be said that there is a natural similarity between the LTL transport business and the Amiba model.

#### (2) Demand agreement

Amiba's role is to improve the ability to work enthusiasm and initiative to work various grassroots organizations, in order to achieve the purpose to increase revenue. The LTL transportation chain way, there is no doubt that the management is the main content of the purpose is to increase revenue, expand the source of profits.

When using the amoeba model in LTL transport enterprises, we should pay attention to the following aspects:

#### (1) Achieve the management of full participation

As mentioned above, many logistics enterprises are difficult to develop, because of its high centralization too much, some company management structure is too flat, as the phenomenon appeared in grass root. And amebic changed this situation, the enterprise is split into several small groups, each group will produce a leader, the leader need to responsible for all work, make its full participation in decision-making activities. However, the senior leadership is only able to grasp the overall direction and operation of the company. Through this model, the staff's work enthusiasm is fully driven, avoiding the lazy situation of team members.

#### (2) The popularization of the accounting system of amoeba unit time

The unit time accounting method is mainly the individual "amoeba" in the operation process, quantification of all the business indicators, timely follow-up, publication, study, guidance, correction. For example, in our daily logistics business, the terminal business department usually has a monthly index. "Amoeba" would break it up into smaller units, break the whole index into smaller pieces, and send small product metrics to each member of the team. The members of the "amoeba" must analyze, summarize and follow up each segmentation index every day. Generally speaking, accounting is based on the month, while the amoeba model is based on the daily basis. The unit time accounting of amoeba is not an individual act, but a bottom-up accounting action.

#### **4. Conclusion**

In this paper, using the method of thinking of the Internet, analyzes the development of the Internet era of logistics, the logistics innovation is the direction of development, and then to the innovation and development as a clue, "multimodal transport" and "LTL" two kinds of pattern classification logistics. The main reason for the high cost of domestic multimodal transport is the low level of standardization, so the development of the development of multimodal transport cited in Europe to prospect of China of multimodal transport, multimodal transport have risen as a national strategy. Combining with Amiba mode of LTL transportation, this is the domestic LTL transportation is first proposed, although this has been applied to logistics, but the development of our country's LTL transportation enterprises still have guiding significance. This article has a comprehensive understanding of the impact of the Internet on the logistics, looking forward to the future development of logistics will certainly be more closely linked with the Internet, but also driven by the Internet, logistics will be more efficient, more intelligent.

#### **Reference**

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