

Status and Analysis on Distribution of Small and Medium-sized Logistic Companies

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Abstract—under the background of China's economy grows rapidly, especially the Government promulgated policies to promote the logistics industry development. As the “Third profit source” followed reducing material consumption and increasing labor productivity, logistics industry has been rapidly develop in recent years. In abroad, owing to the highly developed social status, has formed a thorough logistics system, the proportion of the total cost of logistics is small. The other hand, China's logistics industry started late, grew from a low starting point, the corresponding facilities are inadequate, laws and regulations are not perfect. Most of the small-scale logistics enterprises are not competitive except for a small proportion of large-scale logistics enterprises which can not achieve large-scale profits, cost of logistics enterprises 70% of the total cost or even higher. This becomes one of the bottlenecks of China's national economic development. Small and medium-sized logistics enterprises need to grow and develop without delay. Other problems like high logistics costs, the lack of logistics personnel, restricted the profit margins of the logistics enterprises. They need to be resolved in time. Based on the above situation, this paper will analyse China's logistics situation, combined with specific case studies, to provide some reference for the development of small and medium-sized logistics enterprises.

Keywords—component; small and medium enterprises, logistics and distribution, green logistics, case study

I. INTRODUCTION

The rise and development of modern logistics industry is a product of modern circulation, is the inevitable trend of the times. As the backbone of logistics industry development, small and medium enterprises receive more and more attention from the society; logistics distribution industry is an important connecting part of the entire logistics chain, and it is also the objective requirements of a certain stage development of social productive forces. Its healthy development is the key advantage of logistics enterprises in fierce competition. Looking at the current situation of China's logistics distribution industry, we can see: with continuous improvement of logistics distribution industry and policy support from government, logistics industry infrastructure construction makes obvious achievement. Logistics distribution forms certain of foundation gradually, and logistics industry development momentum is good. But it cannot be ignored that there

are many problems of logistics and distribution: Distribution efficiency is not high, lack of delivery personnel, serious pollution in delivery process. The development of foreign logistics industry experienced a longer period of testing, has formed a complete set of logistics and distribution system, so China's logistics and distribution still has large gap compared with them.

The paper states the existing problems and improving measures of our logistics industry, based on previous research through analyzing current status. From contrasting the status of China's logistics industry, logistics and distribution situation at home and abroad, proposing solutions and typical case studies focusing on currently cases, the paper interprets the logistics distribution situation of small and medium enterprises from multiple aspects. I hope it can provide reference for China's logistics industry.

II. INTRODUCTION OF LOGISTICS DISTRIBUTION

A. Concept of logistics distribution

As shown in TAB.1 ,With the introduction and rapid development of modern logistics industry, modern distribution develops rapidly. From the prospect of logistics, distribution includes almost all the logistics functional elements, and it is a microcosm of logistics, but also reflects all the activities of logistics in small range. Today, distribution management has developed into an independent discipline under logistics industry; many large distribution centers are set up like mushrooms, such as Shanghai Hualian distribution centers.

TABLE I. VARIOUS VOLUME OF GOODS TRANSPORTED FROM 2006-2009

Index	2006	2007	2008	2009
Transportation line (10 thousand km):				
railway revenue kilometers	7.11	7.80	7.97	8.53
road kilometers	845.70	938.37	975.03	1068.08
highway kilometers	4.35	3.39	6.03	6.53
length of navigable inland waterways	12.34	12.35	12.26	12.33
civil aviation routes kilometers	211.35	254.30	246.15	234.33
pipeline length for transporting oil (km)	4.81	5.43	5.81	6.91
Freight transportation quantity (10 thousand ton):	3057986	3275822	3286957	2824222
railway	288224	314237	330354	333348
road	1466347	1659432	1916759	2127814
waterway	248705	281199	294316	318998
civil aviation	309.4	401.4	467.8	483.5
pipeline	13.34	405.3	41606	44398
Cargo turnover (100 million ton km):	88846	101419	119390	122133
railway	21914	23797	23106	25219
road	6754	11535	13868	13189
waterway	55468	86285	10065	57957
civil aviation	94	116.4	119.8	126.2
pipeline	1571	1866	1944	2027
cargo throughput of coastal above scale ports	342191	388266	429998	475481

In 2007, State Bureau of Quality and Technical Supervision started to implement the “People's Republic

of China National Standard - Logistics term”, which defining distribution as following: “it’s a kind of logistics activity within a reasonable economy region, proceeding selection, processing, packaging, segmentation, assembly and other operations of goods according to customer demand, and deliver them to designated locations on time.”

B. *China’s logistics distribution status*

In recent years, with the continuous prosperity and development of society and economy, logistics activities between enterprises become more frequent. This is a good opportunity for distribution industry rapid development. China emerges a number of modern logistics enterprises, for example China COSCO Logistics Co., Ltd. is one of the outstanding representatives. But we cannot ignore the fact that comparing with the United States, Japan and other developed countries, China’s distribution industry is still in its infancy, there are still quite prominent problems.

1) *Infrastructure construction effect is obvious, and logistics distribution has formed certain base*

China’s logistics industry has formed necessary basic hardware conditions for development, and transportation infrastructure is progressed steadily. Rail, road, highway, river, aviation, pipeline and other transportation facilities scale is speeded up significantly. The volume of goods transported, cargo turnover in various transportation modes, and cargo throughput of coastal above scale port shows an increasing trend.

2) *Good logistics development momentum*

According to a set of data in “China Economic Times”, in 2003, the total national social logistics value reached 29.5437 trillion Yuan, with year-on-year growth of 27%, significantly higher than the growth rate of GDP in the same period; the total national social logistics value of 2010 reached 125.4 trillion Yuan, with year-on-year growth of 15% at comparable prices, 3.7 percentage points over the previous year.

3) *Gravely insufficient logistics talents*

At present, China has listed modern logistics industry in the four new industries. However, facing such a favorable situation, the logistics talents shortage is still one of the top ten. If the talent gap cannot be solved, then the entire honor and aura will be a tree without root and the water without source.

4) *Automation and mechanization degree of logistics distribution center is low*

Since the development of logistics distribution center, logistics and distribution centers technology and equipments are relatively old due to the impact of China’s planned economy. This leads to low automation and mechanization level of logistics distribution center. In most cities of China, most of logistics companies with distribution centers have problems of low level automation and mechanization.

III. ANALYSIS OF SMALL AND MEDIUM LOGISTICS ENTERPRISES STATUS

A. *Introduction of distribution center*

Distribution center is the s or organization that engaged in the distribution business with sound

information network. It should meet the following basic requirements: mainly provide services for specific customers or the end customers; sound distribution function; small range of radiation; providing high frequency, low-volume, multi-batch distribution services. Distribution center is in an important position in logistics and distribution sectors.

B. *Small and medium logistics enterprises distribution center status*

Currently, logistics and distribution centers have mushroomed in China with numerous forms, such as storage-distribution centers, professional logistics and distribution centers, city distribution centers and so on. Relative to the increasingly well-developed market economy, China’s logistics and distribution industry is still seriously lagging behind. The construction of distribution centers mainly has the following problems:

Small distribution scale without forming scale merit

Distribution speed is slow, lack of management experience

Backward technical equipment, manual operation takes up the lead

IV. OPTIMIZED SOLUTIONS OF SMALL AND MEDIUM LOGISTICS ENTERPRISES DISTRIBUTION

A. *Green logistics and distribution*

In the whole logistics, distribution is the critical component to realize green logistics. In logistics distribution, packing and transportation is the two major steps polluting environment. So to realize the “greenization” of packing and transportation is significant to realized green distribution.

Green logistics (Green Logistics) is a kind of decision model of logistics with integrating environmental protection concept and the link connecting green production and green consumption; it is also the “strategic weapon” used for enterprises reducing resources and energy consuming, decreasing pollution and enhancing competition advantages with long-term benefits.

1) *Realize distribution greenization through green packaging*

In the social production process, packaging is both the end of production, but also the starting point for logistics. Since the packing costs a lot of resources, and packaging waste is an important component of municipal waste, therefore, the development of green packaging is an inevitable trend.

Due to the green packaging with high costs, most small and medium logistic enterprises cannot afford and are also reluctant to pay the high cost of green packaging, but from the view of long-term development and corporate social responsibility and enhancing the corporate image, this is a far-reaching significance for SMEs. Green packaging technology is not yet mature, so packaging company should increase research efforts to develop a large number of green packaging materials, contribute to a sustainable development.

2) *Realize green distribution through green transportation*

The environmental impact of logistics and transport mainly include air pollution, noise pollution, energy consumption and urban congestion. To this end, we need to establish logistics and transport planning and management strategy of transport greenization from the strategic perspective of sustainable development, to reduce and control the impact of transport on the environment.

To the whole society, greenization cost is expensive. It requires investment in technology and capital, ideas and innovation. Most logistics companies had to give up green logistics in the face of reality. Especially for small and medium logistics enterprises, due to the limitations of their size, they are in the development phase, so they are willing to put more time and energy on how to expand the volume of business and achieve high profits, but may have to take on not essential or even firmly resisted attitude for the green logistics. These logistics companies need to change their ideas and understand that green logistics is inevitable trend of the future within the industry. They should focus on the future, and actively use green logistics technology, to realize environment and sustainable development.

B. Reduce distribution cost and increase enterprises profit

The “focus on logistics ills” series program of CCTV “economic half-hour” offered an integration for the “strange phenomenon that cheap vegetables hurt farmers, expensive vegetables hurt people” in the first half year, that is, domestic logistics costs are too high, especially for the last mile, resulting in vegetables retailing price rising 20 times from wholesale price. But this conclusion is not final. Logistics industry output value is high because of the high social value they create; otherwise it is difficult to develop the logistics industry. So the too high total cost of logistics does not mean any problem. It is more likely because of the logistics capacity, and even economic activities, and a sign of economic prosperity, otherwise it should arouse people's attention.

However, in terms of corporate profits, although the above-mentioned content is a right economic point of view, but as a logistics enterprise, especially small and medium logistics company, in order to stand out in the fierce competition in the market, reducing costs, thereby reducing service costs will undoubtedly attract more customers, helping them occupy a larger market share. In all aspects of logistics, distribution is one way to reduce costs.

1) Overall planning the distribution vehicles routs, time and operating stations

a) Direct distribution system

When a customer's cargo is too large, exceeding the maximum load capacity of a single vehicle, that is, the vehicle is fully loaded; direct-type distribution method is able to achieve economies of scale. If there are still excess goods after the vehicle is loaded, then the excess cargo will be transferred to the multi-point distribution scheduling.

Direct distribution scheduling is described as a logistics distribution enterprise performs distribution only corresponding one customer site. Distribution is

performed in two steps: the first step is to select vehicle, based on the weight and type of cargo; the second step is to choose route, giving different paths (such as road traffic flow, grade, different retention time, etc.) different weighting coefficients, to get the shortest path.

b) Multi-point distribution scheduling

Multi-point distribution is the situation that a logistics distribution enterprise corresponds to multiple customer sites. When the customers are more and each customer requires small quantity goods, the goods of multiple customers need loading and distribution. It needs to take a variety of constraints into account, select vehicles reasonably and achieve effective and orderly cargo loading and generate optimized driving route.

c) Distribution scheduling on the way

Distribution on the way is a kind of information dynamic change problem. The information change needs to consider: the uncertainty of road conditions change, customer information (demand for goods, delivery time, delivery location) changes, vehicles and drivers emergency. The more content of change to consider, the more complex to optimize scheduling problems. Once the information is known and clear, adjust driving route according to the new situation and new demand information. This requires distribution companies have strong flexibility and experience in scheduling.

2) Encourage to establish joint distribution center and improve logistics distribution service system

The law of market development tells us that establishing sharing mechanisms for alliances and competing with other companies is the best way to achieve economies of scale by concentrating superior resources. Especially for the small and medium logistics enterprises, on the premise of their own funds and technology are relatively short, establishing a joint distribution center, achieve distribution jointly, socialized trend is inevitable.

3) Reduce distribution costs through effective supply chain management

On the basis of comprehensive supplier assessment, the number of suppliers is controlled within a certain range. To do so, on the one hand, it can help manage suppliers, in favor of suppliers to achieve economies of scale, but also can help reduce procurement costs; on the other hand, it can help establish long-term stable cooperative relations between supply and demand, and supply pricing and quality is more assured.

C. Strengthen logistics high-leveled skilled labor training

Since the development of logistics industry in China is still in its infancy, therefore, the supporting professional logistics education development is relatively slow. Meanwhile, vocational skills' training for some employees is not deep or specific enough, which resulted in China's logistics having more than 70% employees engaged in only “hard labor.” Looking abroad, the logistics industry in many developed countries after decades of development has formed a scientific system. The logistics major courses become more specialized and refined; almost all universities have opened a logistics management major. Therefore,

these countries can train highly qualified logistics professionals better.

Whatever the business nature, talent is the key. No relevant human wisdom and skill, the enterprise is like a car with no power, impossible to drive. Under the joint efforts of the whole society, logistics talents team will continue to grow, logistics talent gap of 100 million will be history. They will inject fresh blood in China's logistics industry, to provide a new model of development, making China's logistics industry become a strong driving force of economic development and social progress.

V. CONCLUSION

Today, the logistics market has been carved by many large domestic and foreign logistics companies. How do the numerous small and medium-position logistics companies position their locations, identify their own profit point and choose their own profit model is an important issue to consider.

Distribution is an important part of rational planning that the logistics enterprises must consider. Whether there is a sound logistics distribution center, whether the communication among distribution center and its upstream and downstream link is smooth, whether there is damage on environment during transportation, whether logistics talents reserve is adequacy, etc. are related to the successful implementation of logistics distribution sector. In the process of actual research and consulting the material, I found that small and medium logistics enterprises has not been good in the above areas, so that they are difficult to break through the bottleneck and compete with large logistics companies.

Introduction, absorption, digestion and innovation are the only way for each SME development. In the fierce market competition, small and medium logistics distribution enterprise should have courage to learn the experience of large network distribution enterprises, to correct their deficiencies. I believe in the future logistics industry, small and medium logistics distribution enterprises will gradually grow and truly become the backbone of logistics industry!

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