Research on Strategy of Enterprise Logistics Cost Control within Intelligent Supply Chain

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Keywords: logistics cost; intelligent supply chain; management strategy

Abstract: With a review of researches on enterprise cost, the author introduces the status of researches on supply chain logistics cost, analyses the composition of supply chain logistics cost, briefly describes the existing problems of supply chain cost control in China's logistics enterprises, and introduces the specific strategies of supply chain cost control in the new economic situation.

1. Research Status at Home and Abroad

Nowadays, the frontier theories of logistics management mainly include supply chain management, lean management, agile logistics and so on. The new concepts and fields involved, such as reverse logistics, green logistics and logistics alliance, are also developing constantly. According to the results of literature research, the focus of researches in this field vary a lot between at home and abroad. The foreign researches are about information share among micro-enterprises, inventory determination in supply chain, price mechanism of enterprises in supply chain, supplier evaluation and so on, which mainly belongs to quantitative research and require modeling. Domestic researches focus on theoretical discussion, application of logistics technology and other macro-qualitative research, such as Supply Chain Logistics Cost Management by Shen Botao and others in 2012, Discussion and Analysis on Supply Chain Logistics Cost Management Based on Activities-Based Cost Method by Ji Xinhao in 2013, Study on Logistics Cost under Supply Chain Management by Wang Wei's in 2015, etc.

2. Composition of Total Cost in Supply Chain

The author conducts a components analysis of cost regarding the supply chain consisting of supplier, manufacturer, distributor, retailer and customer. The supply process is divided into four links (ordering of customer, inventory replenishment, production and raw material acquisition). Each of them links two successive stages of supply chain to constitute the internal circulation network of supply chain cost. The composition of supply chain logistics cost basically includes the purchase and supply of raw materials within the enterprise, warehousing, carrying, loading and unloading, packaging and transportation of semi-finished products and finished products during production link, and acceptance, classification, warehousing, storage, distribution, waste recycling in the field of consumption and costs produced in other circulation links [2].

2.1 Ordering of Customer

Ordering of customer includes all the processes involved in receiving and satisfying customer orders. Costs that need to be analyzed in this link includes information cost and order management cost.

2.2 Inventory Replenishment

Inventory Replenishment includes all the processes involved in replenishing the goods for retail listed in inventory. Costs that need to be analyzed in this link includes cost of retailer's order, distributor's order management cost, inventory storage cost and storage cost, capital transfer cost and purchase cost, distributor's order management cost, transportation cost and information cost.

  DOI: 10.25236/issec.2019.105

2.3 Production

The production takes place between the distributor and the manufacturer. This link involves the distributor's order cost, inventory storage cost and warehousing cost, capital transfer cost and purchase cost, manufacturer's order management cost, manufacturer's production cost and so on.

2.4 Raw Material Acquisition

Raw material acquisition takes place between the manufacturer and the supplier. This link involves manufacturer's order cost, inventory storage cost and warehousing cost, capital transfer cost and purchase cost, supplier's order management cost, supplier's production cost, etc.

In addition, there are still some hidden costs in the supply chain that cannot be ignored, such as management costs, quality costs, transaction costs, customer waiting costs, cost reduction, etc. [3].

The total cost of supply chain refers to the cost caused by the circulation of materials, information flow and capital flow, product quality and daily management in the operation of supply chain, the cost caused by supply chain maintenance and change of cooperation and business relationship, the cost caused by the integration of supply chain and the customer waiting cost caused by the delivery date. But as a whole, it can be divided into two categories: transaction costs of all activities dealing with information and communication with suppliers and customers, and operation costs incurred by a single enterprise in the supply chain to accomplish certain tasks. Logistics operation cost of supply chain mainly includes logistics operation cost in five main processes of supply chain: transportation operation cost, warehousing operation cost, packaging operation cost, handling operation cost and circulation processing in enterprise logistics stage, sales logistics stage, recovery logistics stage and abandoned logistics stage. Supply chain logistics transaction costs mainly include supplier-oriented logistics transaction costs and customer-oriented logistics transaction costs.

3. Problems in Logistics Cost Management of Enterprises

3.1 Incomplete Understanding of Logistics Cost Management

Logistics cost, logistics cost management, logistics cost control and its impact on enterprise efficiency are not fully comprehended. Main energy was put on development, production and marketing, which results in the increase of sales and the decrease of profits in some enterprises.

3.2 The Mismatch between Accounting System and Logistics Cost Management

Logistics does not exist as a separate subject in the financial accounting system of production enterprises, so it is impossible to conduct comprehensive accounting and financial analysis of logistics costs. In the accounting subjects of enterprises, the logistics cost accounting of enterprises exists as the transportation cost or storage fee expended by external transportation. The transportation and storage fees set by enterprises themselves are not included in the accounting scope of logistics cost, which makes it difficult for enterprises to have a general control of logistics cost under the financial system.

3.3 Chaotic Logistics Cost Composition

In the general logistics cost, many costs are not in total control of logistics department, such as custodian fee caused by excessive purchase, excessive production, the maintenance of sales residues in warehouse and emergency transportation costs, which increases the difficulty of logistics cost management.

3.4 Improper Logistics Cost Management Method

At present, most enterprises are still confined to the logistics cost management at the functional or operational level, separating the logistics system purposefully and failing to manage systematically. Because the logistics cost has a "reverse nature", unilateral management of a part of the cost is likely to increase the total cost.

3.5 Incomplete Logistics Cost Accounting and Decentralized Control

For the calculation and control of logistics cost, each enterprise carries out separately and are not able to clearly divide and calculate the logistics cost of classified items in light of sales association and other external links. In the general financial statements of enterprises, the logistics fees refer to transportation fees paid to external transport operators, goods storage fees paid to warehouses and other traditional logistics fees. For personnel fees, equipment depreciation fees, fixed assets tax and other expenses related to logistics centers in enterprises are calculated together with other expenditures of enterprises. Thus, from the perspective of modern logistics management, it is difficult for enterprises to correctly grasp the actual logistics cost in light of external associations.

3.6 Disobedience of the Management Principle of Logistics-"Trade-off Law".

Because logistics cost is calculated with whole logistics activities as the object, it is the only, basic and common management data of enterprises. From another perspective, items of logistics cost influence each other, that is, the reduction of some items' cost may cause the increase of other items' cost. Therefore, the items of logistics cost are interrelated. In addition, the multiplier effect of logistics cost is not well understood, and it has not been fully applied to improve the management and control of logistics cost [6]. Logistics cost reduction has multiplier effect. For example, if sales volume is 10 billion yuan and logistics cost is 1 billion yuan, then logistics cost reduction is 100 million yuan, which not only directly generates 100 million yuan of benefits, but also indirectly increases 1 billion yuan of benefits since logistics cost accounts for 10% of sales volume. This is the multiplier of logistics cost reduction. However, the multiplier effect is often neglected in logistics cost management, which leads to the ineffective control of logistics cost and the loss of the enormous multiplier benefit brought by logistics cost reduction.

4. Supply Chain Logistics Cost Management Strategy

The optimization and integration function of the Internet in the allocation of social resources in the enterprise logistics and supply chain management should be fully played to integrate the innovative achievements of the Internet into the logistics management of enterprises, enhance the innovation and productivity of the nodes of the supply chain, and form a new situation where “Internet +” intelligent supply chain coordination mechanism is used to reduce the logistics cost of social enterprises [7].

4.1 Constructing Innovation Management Mechanism

4.1.1 Innovation of Logistics Cost Management Mechanism

It is supposed to improve talent incentive mechanism, strengthen logistics cost consciousness, and linking personal interests with logistics cost management performance [8]. And it is necessary to implement TCM strategy, establish logistics cost management organization system, emphasize the participation of all employees in cost management, incorporate personal objectives of employees into the overall objectives of enterprises, and overcome the "antinomy" of logistics costs. What’s more, it is important to construct an effective cost control system for material purchasing, try to reduce the cost of material purchasing, strengthen the professional quality of personnel, actively use new technologies, adopt new methods, establish a scientific supplier investigation, evaluation and selection system, establish and improve the claim system, systematically analyze comprehensive control, realize the integration of supply chain and set up integrated management framework of logistics cost.

4.1.2 Construction of Logistics Cost Management System

It is supposed to make up inadequate logistics cost accounting in traditional financial system, design a cost responsibility framework which can organically combine cost accounting with responsible entity control [9] and integrate logistics activities into an organic whole, so as to make all departments and links bear their respective responsibilities to achieve the overall goal of the

logistics system, and make the logistics system decision-making departments keep abreast of the situation through feedback from the logistics responsibility centers. Then, they can find problems, solve problems, effectively reduce logistics costs and improve the efficiency of the logistics system.

4.2 Applying Information Technology to Build Communication Network

It is supposed to establish logistics strategic application systems, such as the extensive promotion of enterprise resource planning (ERR) and supply chain management (SCM), the use of electronic order system(EOS) technology, the use of radio frequency identification(RFID) and electronic tags, etc. And then, it makes it possible to communicate the intention, quantity and price of orders online to the enterprises or departments involved in the whole process of production and circulation and bring benefits therefrom. At the same time, with the help of modern intelligent information management system, logistics cost can be better controlled and reduced.

4.3 Establishing Three Mechanisms to Ensure the Security System

4.3.1 Confidence mechanisms

Trust is the affirmation, recognition and trust of partners among supply chain enterprises on the basis of rational analysis. Generally speaking, there are many factors affecting trust among supply chain enterprises, and they can be divided into macro ones and micro ones. Since macro-factors are more uncontrollable, it is necessary to establish a mechanism to ensure the long-term development of trust relationship[11]. The establishment of such a mechanism should focus on increasing the cost of opportunistic behavior, increasing the benefits of cooperation, standardizing the behavior of member enterprises through the establishment of the mechanism, and ensuring that the weaknesses of member enterprises will not be exploited by other enterprises.

4.3.2 Information sharing mechanism

"Without cost information sharing and open research among organizations, inter-organizational cost management is impossible." [12] Thus, information sharing is very important in supply chain management. However, in the implementation of information sharing, there are many obstacles, such as trust, information sharing, increasing investment costs, dynamicity of supply chain itself, uneven distribution of additional profits, which requires attention to risk prevention, cost-benefit trade-off, incentive strategy and so on in the establishment of sharing mechanism.

4.3.3 Fair distribution mechanism of costs and benefits

Node enterprises in supply chain are a community of interests. Under certain conditions of overall profits in supply chain, the increase of profits of some node enterprises will lead to the decrease of profits of other enterprises. Stimulated by extremely low profits, some enterprises will take opportunistic actions to make up for the unfair distribution, take negative cooperation, or even withdraw from the supply chain, which eventually lead to the collapse of the supply chain. However, a fair distribution mechanism of costs and benefits can bring long-term returns to the members of the supply chain, continuously increase the interests of all parties, ensure the long-term benefits of cooperation outweigh the short-term benefits of betrayal, rationally distribute the total cost of the supply chain, and adopt cost-sharing and other coordination mechanisms. Then, enterprises will be encouraged to jointly realize supply the utmost optimization of supply chain.

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