Research of the Business Reverse Logistics Based on the Cyclic Economy

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Abstract: Along with the continual development of the social economy, there is an increasing demand for natural resources in the worldwide society. Meanwhile, social production and consumption often produce a large amount of castoffs and returns. It is found that reasonable disposition and reclamation of the castoffs and returns can not only improve using efficiency of resources and reduce waste of resources, but also can reduce environmental impact because of incorrect treatments when they are drained into the environment. Moreover, it can bring a good image to the enterprise. Though introducing the cyclic economy and the identity of the business reverse logistics, This article gives the enterprises a serial of effective and efficient methods of developing the business reverse logistics to reduce the corporation’s logistics cost and resources.

Keywords: Cyclic Economy; Business Reverse Logistics; Countermeasure

1 Introduction

In recent years, experts and scholars at home and abroad who majored in the sustainable development of reverse logistics has aroused widespread attention, and made system and in-depth research, while some well-known foreign companies have begun to gradually implement reverse logistics management. But at home, the reverse logistics has not yet caused for adequate attention. Few companies have embarked on reverse logistics activities. We usually say the logistics generally refers to the forward logistics, but a complete supply chain logistics should include the forward logistics and the reverse logistics. The reverse logistics is introduced the first time in 1992 by the Stock to the United States Association of Logistics Management (CLM) in a research report.

Logistics is positive from production to consumption of the actual logistics direction, supply chain and the operation of the same direction. However, the reverse logistics is the market and customer-oriented, which makes the information technology as the foundation. Through the channel, goods will return to the point of origin of the process, including returns, failed to return goods, maintenance and re-manufacturing, material substitution, use of recycled materials, waste recycling, and other processes, so that these materials be re-value and proper disposal.

2 The conception of the cyclic economy and its basic influence

The conception of the cyclic economy was put forward at first by American economist Baldin in 1962 by spaceship's inspiration. But after its birth, it has not been widely taken seriously. In recent years it has gradually become the first choice pattern on dealing with the relationship between the environment and the economy. The cyclic economy should follow the following principles

2.1 The principle of decrement on resource investment

The decrement on resource investment is used for the purpose of reducing the material and the energy current capacity. In the process of the production, through reducing the raw material amount of each product and the redesign fabrication technology, the producer may reduce the using of resources and the emissions. The consumers should select and purchase the simple packing and the circulated durable product to reduce the rejection of the production.

2.2 The recirculation principle of taking rejects using maximization
This principle belongs to the procedural method, and the goal is that it can lengthen time of the product and the service. We try our best to use goods more times and many kinds of way as far as possible, avoiding that it becomes trash premature. In view of the industrial chain's middle link, the manufacturers and the producers should adopt the precise division of labor and the highly effective cooperation between the industrial groups, enlarge the transformed cycle of the "product -> reject", and realize efficiency maximization of the resource using. The consumers should adopt the process extension methods, most greatly increase ways and times of the product using, and lengthen time of the product and the service effectively.

2.3 The resource principle of the emission minimum of the pollution

In view of the industrial chains out-port ---- reject, the manufacturers and the producers should raise the level of the green industrial technology. Through using of the recycle and closed-like positive cycle of the reject, we can realize the smallest emissions of the reject. The resource principle is the out-port method, which can turn the reject into resources that can reduce the final process quantity once more, usually also called the waste product recycling and the comprehensive utilization. Adapting with resource process, the consumers should strengthen the consciousness of the regenerated product, promotion the realization of the entire cyclic economy.

3 The influence and content of the business reverse logistics

3.1 The influence of the business reverse logistics

The reverse logistics can improve the customer value and enhance competitive advantage, reduce material costs, increase enterprise efficiency, improve the environment, shape their images, and other overt and hidden role. The reverse logistics is conducive to the rational flow of resources, the conservation of resources, the improvement of the environment and the sustainable development of the economics. Therefore, the implementation of the reverse logistics is in line with the development of the times.

3.2 The content of the business reverse logistics

The reverse logistics is one kind of the logistics; therefore, it is similar to the logistics in functions, packing, transportation, loading and unloading, storage and processing. The table 1 is the difference between the reverse logistics and the forward logistics. In the chart, it is indicated that the forward logistics is from raw material to the user. The major people contain raw material suppliers, the manufacturer, the wholesaler, the retailer and the customer. We can see that the reverse logistics's direction indicates that the reverse logistics is opposite to the forward logistics. Also, the activity is also more complex, whose treating processes include the collection, the inspection and the classification, the reprocessing, the retail and handling again.

Chart 1 chart of the Supply chain logistics and the reverse logistics

![Chart 1 chart of the Supply chain logistics and the reverse logistics](image-url)
4 The reason of the low development about the business reverse logistics

In China, the application of the business reverse logistics is very rare. The reasons for Chinese enterprises seldom use the reverse logistics as follows.

4.1 Awareness of using the reverse logistics is rare
From the formation of factors, reverse logistics in general is not satisfied with the products of the return. The majority of enterprises believe that the reverse logistics is negative, as one of their troubles.

4.2 Paying insufficient attention of the high-level enterprises.
Companies are happy to invest funds in the forward logistics. However, the companies are lack of attention to the reverse logistics. From the survey a logistics manager get that 40 percent of the people think that leading to the failure of reverse logistics is not important, 35 percent of people think that is the lack of relevant policies and treatment systems. The rest are thought to be negligent management and lack of human resources.

4.3 The operation of the reverse logistics is difficult.
The forward logistics is usually the planning and control of the governors in accordance with the basic requirements from the enterprise. But the operation of the reverse logistics is very complex.

4.4 Lack of appropriate technologies, management tools and support
The ways of handling the forward logistics are generally normal, but the system and way of dealing with the reverse logistics are complicated and diversity. Therefore, the application of the reverse logistics is lack of appropriate technologies, management tools and support.

4.5 Poor overall quality of enterprises.
The application and operation of the reverse logistics need production capacity of enterprises, logistics, personnel quality, management, organizational structure and other aspects of the request. Also, the application and operation of the reverse logistics requires a lot of manpower, material and financial resources, which makes the business reverse logistics cost a lot, cost-effective and low success probability.

In addition, the reverse logistics needs co-operation of enterprises, which is seldom used because of the different benefits.

5 The countermeasures of developing the business reverse logistics based on the cyclic economy

Because of the influence of the business reverse logistics and the low using of the Chinese enterprise, the countermeasure of the business reverse logistics based on the cyclic economy should be made efficiently and effectively. The countermeasures are as follows.

5.1 Studying the knowledge the reverse logistics and establishing a modern concept of reverse logistics.
At present, understanding to reverse logistics of most Chinese enterprises is not comprehensive enough. Meanwhile, most Chinese enterprises don’t realize the potential economic value. Therefore, we must carry on the systematic study of the reverse logistics to enable enterprises establish a correct ideological and reverse logistics in order to increase the level of the business reverse logistics.

5.2 Enforcing and increasing the process of environmental legislation and environmental law.
In the industrialized world, the government's environmental legislation can force the companies to manufacture products which are in charge of the entire life cycle. At present, the United States, Japan
and most Western European and other developed countries issued a refund on low quality goods, recycling of the packaging materials, recycling of the waste, which largely promoted the development of reverse logistics in enterprises. In China, Enforcing and increasing the process of environmental legislation and environmental law are urgent.

5.3 Valuing the channel construction of the reverse logistics and improving supply chain integration.

A complete reverse logistics process is composed by consumers, retailers, wholesalers, distribution centers, manufacturers and suppliers. As demanding for the reverse logistics and the flow length are uncertainty, we must Value the channel construction and selection of the reverse logistics, which is reasonable to reduce the flow quantity of reverse logistics and the time and of the reverse logistics. Therefore, in order to strengthen business supplying chain, we should integrate members of the channel.

5.4 Promoting the management innovation of the business logistics and technological progress.

Given the complexity and uncertainties of the reverse logistics, in order to realize the standardized position of the reverse logistics we should needs the advanced information technology and operations management system as a support. Meanwhile, adopting a series of plans and control methods and measures to improve the efficiency of resource using and investment return is urgent.

5.5 Introducing the management of the third-party reverse logistics.

In general, the third-party logistics companies have a significant advantage on the profession, technology, management and information. Through outsourcing the reverse logistics to a third party, we can realize the professional division and improve the operational efficiency. In addition, we must value the influence of the industrial union and the trade association in the management of the reverse logistics. Strengthening the role of these organizations on the implementation of reverse logistics and the business management and guidance, enterprises will benefit from the challenges.

6 The inspection system of developing the business reverse logistics

Chart 2 the Inspection System of developing the business reverse logistics

A--- Data acquisition                      B--- Connected analysis
C--- Indefinite analysis                  D---Improvement appraisal

Information inputting                      Result outputting

Explanation
The inspection system is used for the enterprises to inspect the results of developing the business reverse logistics, which can give the enterprise a target to develop the reverse logistics perfectly and effectively. According to the chart 2, we can see the movement of the inspection system as follows.

6.1 Information inputting
The premise of the inspection is collecting the information of the business reverse logistics, which must be accurate so that the inspection is accurate and meaningful.

6.2 Generalized analysis
The data acquisition is used for the enterprise to choice sample so that they can examine the results of developing the reverse logistics. Because we can’t examine every aspects of the circular economy, the enterprise only examine the results partially. The module of the connected analysis includes model of ATMA, model of ANN, model of ATCH, which calculates the results of developing the reverse logistics from the related samples according to the relativity. The Indefinite analysis contains the fuzzy inference and the neural network, which deals with non-quantificated Parameter, also called the non-correlated dates. According to the using of the fuzzy inference and the neural network, we can examine the results of the non-correlated samples.

6.3 Result outputting
According to the generalized analysis, the enterprise can get the actual situation of developing the reverse logistics which is useful to the enterprises.

7 Conclusion
The cyclic economy pursues the lowest resource consumption, the smallest environmental pollution, the most opportunities of the employment, the maximum economic efficiency. Developing the reverse logistics in the enterprises can promote the development of the cyclic economy. Thus the enterprise not only can get more benefits from the lowest resource consumption, but also can undertake more social responsibility which is Beneficial to the enterprises. This article introduces the cyclic economy and the business reverse logistics. Though analyzing the reasons of the low development about the business reverse logistics and influence between the reverse logistics and the cyclic economy, this article introduces the countermeasures and the inspection system of developing the business reverse logistics based on the cyclic economy, which is useful to the long term development of the enterprises.

References

