

## **Research on management strategies of reverse logistics in e-commerce environments**

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**Abstract:** With the rapid development of e-commerce, online transactions are becoming more and more popular, which causes the flourish of logistics industry in turn. But the high rate of returning has become a great challenge to companies, thus leaving floor to considerations of the effects of reverse logistics. Starting from the connotation and characteristics of the reverse logistics in e-commerce, the article first probes into its causes, then analyzes the its current management problems in China, and finally proposes suggestive strategies for every management flaw respectively.

**Keywords:** Electronic Commerce, Reverse Logistics, Management Strategies

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### **1. Introduction**

The reverse logistics in e-commerce environment mainly refers to the reverse logistics about returns or exchange, namely the entity transfer process in which the downstream customers return the goods which don't comply with requirements of the order to upstream suppliers(Han,2006). When products purchased online turn out to be are of inferior quality or not satisfying in other aspects, they will be returned to suppliers or manufacturers under their claims for returns or exchange from merchants. The specific flow of reverse logistics should include logistics flow, information flow, capital flow, and all or part of business flow.

Due to most of domestic merchants' ignorance of the reverse logistics currently, the problem about returns or exchange is always one of the largest contradictions between the merchants and customers. Therefore, the development of reverse logistics is imperative in e-commerce.

### **2. Characteristics of Reverse Logistics**

(1) Uncertainty.

Due to the uncertainty of the type, quantity, generation time and distribution of the reverse logistics to some extent, it's quite hard to predict and calculate a routine.

(2) High Treatment Costs

Scale benefits of storage and transport can't be used due to the random and sporadic product transfer, resulted from the uncertain source of refund and exchange.

(3) Complexity

The process of returns or exchange is flooded with complex treatments, variable processing forms and complicated structures, while each stage of the process is affected by the result of the reverse logistics planning.

(4) Low Speed

The tardiness usually represents itself in aspects of slow accumulative speed of logistics volume, the complexity of treatment process, etc. The whole process involves the artificial testing, judgment, classification, processing, and so on, which are laborious and time-consuming.

### **3. Cause Analysis of Reverse Logistics**

(1) Information asymmetry caused by the network shopping

In the electronic commerce mode, it's difficult for customers to get a full view of the characteristics of the purchased commodities, for they are based on the visual perception of pictures or instructions got from Internet. The gap between the marketing information online and consumer expectations give rise to refund or exchange(Li,2010).

(2) Driven by competition among online merchants

As the market competition becomes increasingly fierce, in order to attract more customers some online merchants tend to beautify goods photos or make overstatements of goods, while others vie in promoting preferential returning conditions such as "accepted return in case of dissatisfaction". These do work efficiently in touting customers, but result in kinds of problems in returning on the other hand.

(3)Problems of Commodity

Many conditions can cause the returns problems, such as the discrepancy between the actual products and description, flaws or quality problems, wrong size, quantity and even goods, merchandise being close to or exceed the shelf life, damaged or wrong goods caused by negligence in logistics distribution, etc.

(4) Instability of consumer preferences

Blind shopping is apt to occur because of the characteristics of network shopping, for consumers cannot fully understand quality, function and other related information about products even before using. The purchase decision made out of curiosity or impulse, is prone to lead to requirements of returns.

(5) Imperfections of the forward logistics

A certain degree of damage to goods may occur in the process of transportation, loading and unloading, handling and distribution, such as the loss of components, expired goods, metamorphism caused by poor commodity preservation, and extension, damage or mismatch in the distribution process.

#### **4. Problems lying in the Management of Reverse Logistics**

(1) Online vendors do not attach enough importance to reverse logistics

In the traditional operation mode of returns management, much attention of most online merchants is paid to attracting customers instead of highlighting returns management. In case of reverse logistics, most businesses are in a daze of the process, while the big differences in terms of number, species and location increase the difficulty of returns management (Du,2010).

(2) Lack of efficient returns working mechanism

Costumers are concerned with the way in which returns problems are handled, so to a large extent the returns efficiency will influence customers' purchasing decisions. However, in China, the returns procedures are complicated and slow, costly and tricky.

(3) Low processing efficiency and high cost

At the present stage because of the lack of specialized third-party reverse logistics services, many of our enterprises have to build their own costly reverse logistics management systems. Excessive reverse logistics costs hinder enterprises' enthusiasm for reverse logistics management, and the lagging reverse logistics will inhibit consumers' purchasing desires in turn, thus reducing corporate profits at the end.

(4) Poor service quality of returns logistics

Returns logistics service is very poor at present. On the one hand it's hard for customers to get in touch with the customer-service staff, on the other hand even if the touch is successful it's still difficult to get a satisfactory exchanged processing result.

#### **5. Management Strategies for Reverse Logistics**

##### **5.1. To Optimize the Online Trading Links to Reduce Avoidable**

## **Reverse Logistics**

(1) Try to provide real and detailed information to reduce the possibilities of wrong purchasing as well as returns; other measures such as the message board and virtual community should be established in website, in order to strengthen communication with consumers and overcome information asymmetry by providing evaluations, recommendations and questions.

(2) The businessman should try to minimize the amount of returns derived from impulsive purchasing. When the order is created online, consumers still have the opportunity to reconsider or even to cancel their orders in a given period.

### **5.2. To Develop Reasonable Returns Policies**

Businesses should implement positive returns policies for the overall interests of both parties. Firstly, rational return price, whether at a full refund or discount refund according to the original wholesale price, should be formulated to maximize the overall interests. Secondly, we must determine the best return ratio by allowing appropriate amount discount or price discount before the delivery, to reduce the uncertainty of returns, to better balance the costs and benefits. Thirdly, returns responsibilities should be made clear. Clear the ownership of the returned goods in the contracts signed by the manufacturers, suppliers and retailers, to avoid the disputes over powers and responsibilities among different parties. Finally, return policy should be listed in a prominent position on consumer shopping pages, making them clear to customers.

### **5.3. To Establish an Efficient Reverse Logistics Information System**

It's necessary to establish a rational reverse logistics information system for the well running of reverse logistics. By establishing a perfect information system in use of network and information technology, we can store collected information in database and codes, systematize the commodity tracking, realize the electronic management of returns information, thus improving the reverse logistics management by realizing the bidirectional, timely and complete information exchange in the whole supplying chain from suppliers to customers. We can compile the code for every return reason, store information of return status and classification, track recovery process and conduct inspection and control of the returned items, and finally classify the disposition results, so as to make the information system an effective source for companies to get customer and market information.

### **5.4. Choose Appropriate Reverse Logistics Mode**

Reverse logistics systems can be generally divided into self-supporting ones and third-party ones. Considering the characteristics of reverse logistics in e-

commerce environments and the increasing development status of third-party reverse logistics providers, merchants can benefit a lot by taking advantage of the third-party reverse logistics(Ni & Liao,2009).

Firstly, by outsourcing part of their non-core reverse logistics business to the TPL providers, merchants can effectively reduce costs, save money, and reduce risks(Zhou & Ni,2010). Meanwhile, companies can concentrate their focus on the key processes, which helps to improve their operational capacity, profits and transaction rates. Secondly, by means of the powerful information platform and advanced hardware and software systems of third-party reverse logistics providers, businesses can achieve real-time tracking, and reduce the online return rates by improving sales and after-sales services according to feedback. In this system, once a customer use the information networks to issue a return logistics request, based on that the e-business applications and third-party logistics companies can quickly grasp the amount and distributions of starting point in reverse logistics, thus eliminating the predictable differences. Finally, by use of the third party reverse logistics, industry scale advantage can be better achieved; in addition, by organizing customer groups to carry out recovery and transport activities, the logistics will get more intensive and efficient. Its operation flow model is shown in figure 1 below.

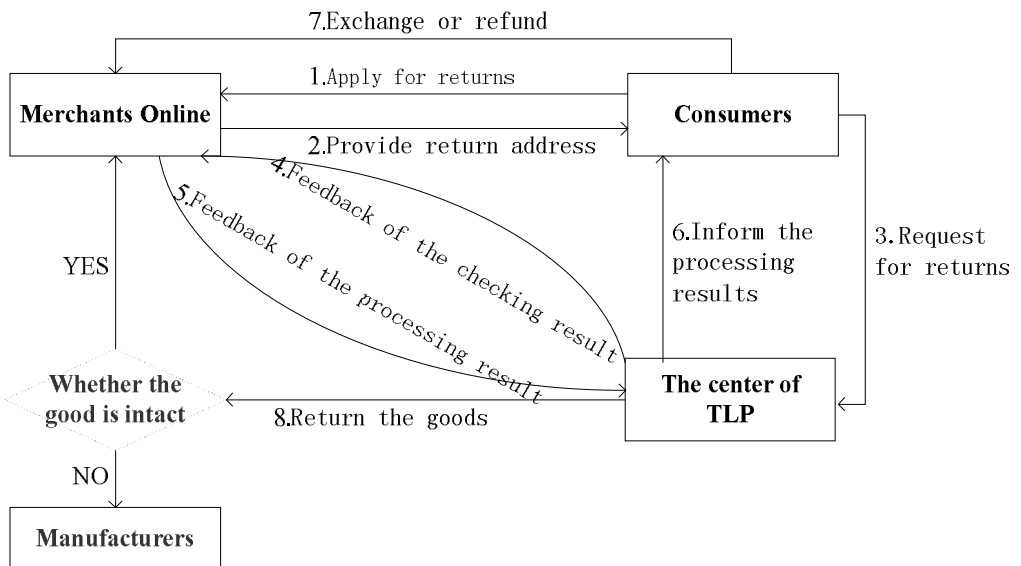


Fig. 1: Reverse logistics system model based on TPL

Third-party logistics companies can take advantage of its extensive distribution network to consider the consumers' requests for returns and then make decisions according to the accessible return standards of the enterprise. Select goods that can be returned, and then get in touch with vendors so as to

take next step in Return Logistics. By using of third-party logistics for professional management, vendors can benefit not only from significant social effects but also good economic effects.

## 6. Conclusion

With the further development of e-commerce, for enterprises, the achievement of greater benefits will be greatly influenced by the way in which the existing resources are utilized for the reduction of reverse logistics possibilities, as well as the management efficiency in case of reverse logistics in e-commerce environment. Reverse logistics is a very weak link in the logistics system. Based on the further understanding of reverse logistics connotation in e-commerce environment, together with analysis of practical problems, such as enterprises' lack of management awareness, vacancy of effective returns mechanism, processing inefficiencies and poor service attitude, we have designed a set of more rational management strategies. By applying strategies such as optimizing the trading process, developing reasonable return policies, and selecting appropriate reverse logistics modes, hopefully the healthy development of reverse logistics could be realized.

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