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Reverse Logistics–Key in Competition of the Business

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Abstracts: Today, logistics is an indispensable trend in the globalization process. It does not only help saving money but also reducing the pressure on business and society. During the operation of logistic, there is a process that has not been focused but it may be the key in the competition of enterprises. The process is called “reverse logistics”. Within the framework of this article, I will address a viewpoint of the key.

Keywords: Competition of the business, reverse logistics, forward logistics, reverse logistics model.

1. INTRODUCTION

In today trend of globalization, logistics is becoming a dispensable development trend. The market's fierce competition has made the logistics's environment become more and more dynamic and complicated. In this logistics environment, the term “reverse logistics” is attracting attention as a solution for enhancing businesses' competitiveness in the context of increasing pressure from the market and serious pollution of the environment.

2. BASIS OF REVERSE LOGISTICS

2.1. What is Reverse Logistics

With current economic development speed, almost of us know about logistics which is Forward Logistics. There are many concepts of logistics. Each organization has its own view-point of logistics. However, the most common concept of logistics can be seen. According to the international logistics administration committee, logistics is defined as below:

“Logistics is a process of planning, operating and managing effectively the capital flow in order to control the process of cargo circulation and reserve, from raw material preservation to finished product complete to satisfy customers' requirements”

Therefore, Forward logistics can be seen as a chain of continual activities from production to consumption, which are inter-related and interacted. This can be presented in the below chart:

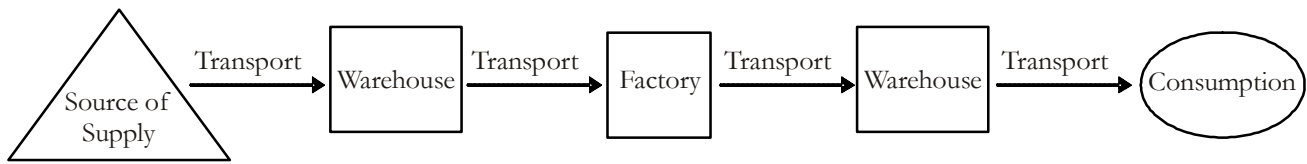


Figure 1: Model of steps to deploy forward logistics

However, different from the Forward Logistics, Reverse Logistics is contrary. It can be understood as follow:

“Reverse logistics is a process of planning, organizing, implementing and managing effectively the capital flow in order to control the process of cargo circulation and reserve which is withdrawn from the distribution or consumption location back to the manufacture place; and activities relating to re-use materials”

In the other words, Reverse Logistics includes a chain of activities relating to taking back the cargo, recycling, replacing and reusing materials, renewing, repairing, replacing equipment or recovering products due to the uncontrollable reasons like breakdown, seasonal stock, replacement, warranty fault or too high inventory level.

2.2. Necessity of the Reverse Logistics

Today, recalling cargoes is an obvious issue of manufacturers, intermediary exclusive distributors, whole sellers, traditional retailers and online retailers as well as logistics service providers. Reverse logistics is also a way to reduce cost, increase revenue and enhance customer service, from which, company will have competitive advantage in the market. There are several necessary activities of the reverse logistics as follow:

Products withdrawn from manufacture activities

Products withdrawn from manufacture activities are the ones recycled during manufacturing process, including: redundant materials withdrawn for quality management and redundant elements of by-products during manufacturing process.

Products withdrawn from distribution activities

After being manufactured in the factory and transferred to the distribution stage, some products come back to the manufacturing stage, including:

- Products recalled due to safety or health problems.
- Commercial recall between company and company due to contract terms allowing recalling broken products during delivery or unsold products.
- Rearrangement at store, including outdate products.
- Products recalled for use or used materials (e.g. pallets uses for transporting products during distribution process).

Products withdrawn during consumption process

Customers return product to the manufacturers due to the following reasons.

- *Refund commitment*: customers change their mind about the needs of the products which haven't been met yet.
- *Recall for warranty*: recalling products due to problems arising through their using process
- *End of Use recall*: products such as bottles, jars which can be reused but recalled.
- *Recall due to End of Life*: products at their end of life or economic life.

2.3. Make Comparison of Reverse Logistics and Forward Logistics

Reverse logistics and forward logistics, during their operation processes, have many similarities due to their same nature of logistics activity. However, they have the below differences

Table 1
Comparison of Reverse Logistics and Forward Logistics

No.	Forward Logistics	Reverse Logistics
1.	Transport from 1 point to many points	Transport from many points to one point
2.	Identical product quality	Unidentical product quality
3.	Standard Intact product packing	Product packing is normally not paid attention
4.	Quite identical price	Price depends on many factors
5.	Transporting speed is managed clearly	Transporting speed is not managed clearly
6.	Strict management of costs	Difficulty in managing the cost
7.	Clear management of reservation and inventory	Difficulty in management of reservation and inventory
8.	Clear proprietary and responsibility of property	Conflict of proprietary and responsibility of property
9.	Easy management of the life cycle	Difficult management of the life cycle
10.	Clear roles of product distribution	Conflict of responsibility of product transport

Forward logistics and reverse logistics has a very close relationship, which is presented through below chart:

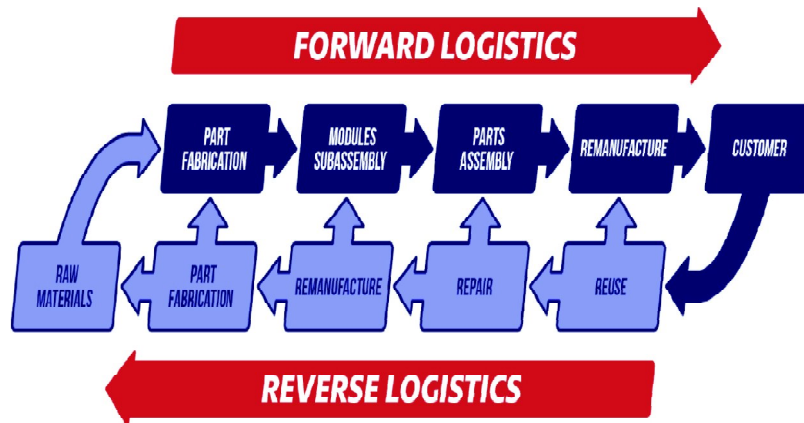


Figure 2: Relationship of Forward Logistics and Reverse Logistics

2.4. Reverse Logistics Procedure and Model

(a) Reverse Logistics procedure consist of 04 main stages

1. Recall;
2. Check, choose and categorize;
3. Recycle or recover;
4. Redistribute

The following chart presents 04 above mentioned stages

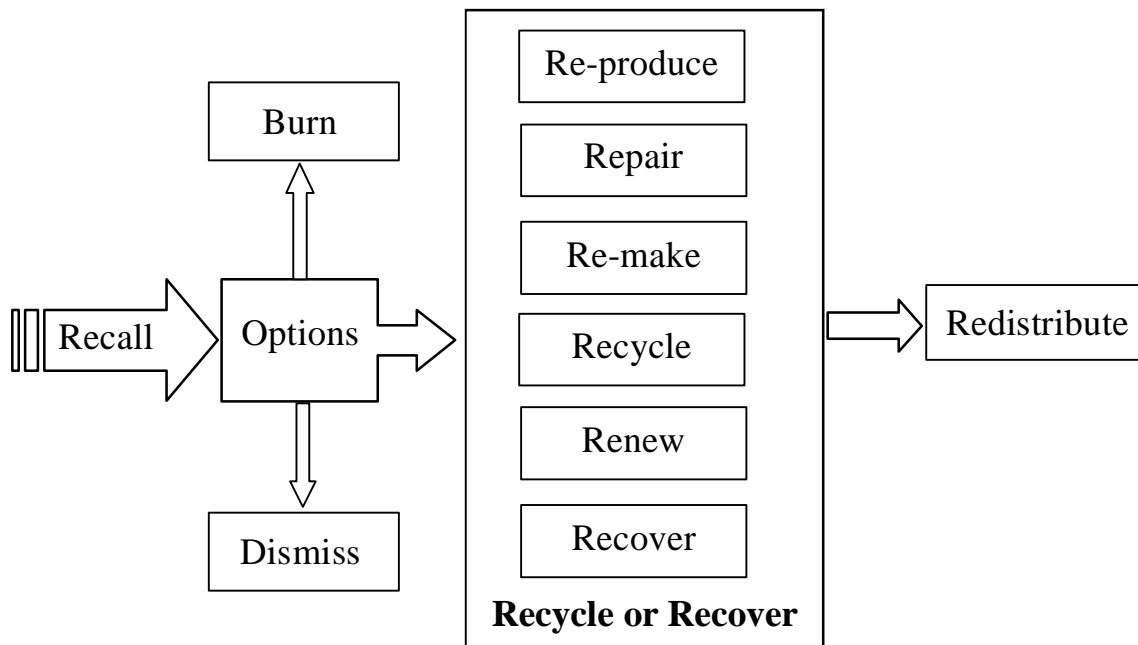


Figure 3: Reverse logistics procedure

In the stage (2), choose to continue using or eliminate the product. If elimination is chosen, incineration or disposal may be used.

- *Incineration*: products are burnt and energy emitted is collected.
- *Disposal*: products which are unusable due to economic or technical causes is eliminated.

In the stage (3), some detailed steps are clarified as follows:

- *Remanufacturing*: whole or part of the product is used to make a new product and is reusable. Some activities in this step are cleaning, disassembling, replacing and re-assembling.
- *Repair*: products which are damaged are recovered of some aspects within their lifetime.
- *Remake*: using materials obtained from recalling products and making a new product.
- *Recycle*: using recalled products to produce other products.

- *Refurbishing*: addressing the upgrading of products.
- *Recovery*: materials used are collected, repaired and manufactured. This is a stage enhancing the value.

In the stage (4), Redistribution of products distributed to many different markets. This stage includes storing, selling, transporting, etc...

(b) Reverse Logistics Model

There are 3 models applicable for reverse logistics

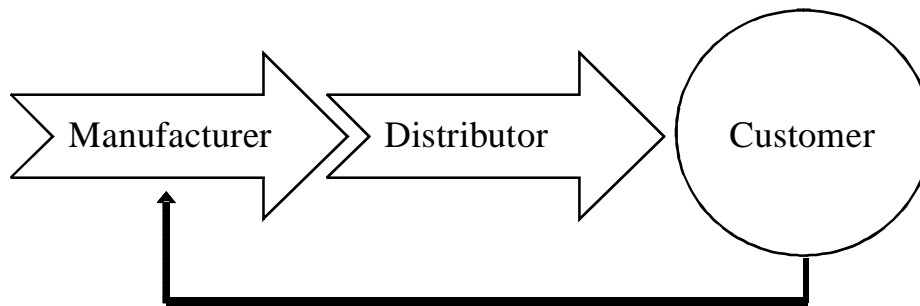


Figure 4: Closedloop model of reverse logistics

This Closed-loop model shows a procedure in which, materials and products used are collected and recycle by the manufacturer. The manufacturer is also responsible for logistics activities at the beginning of the supply chain.

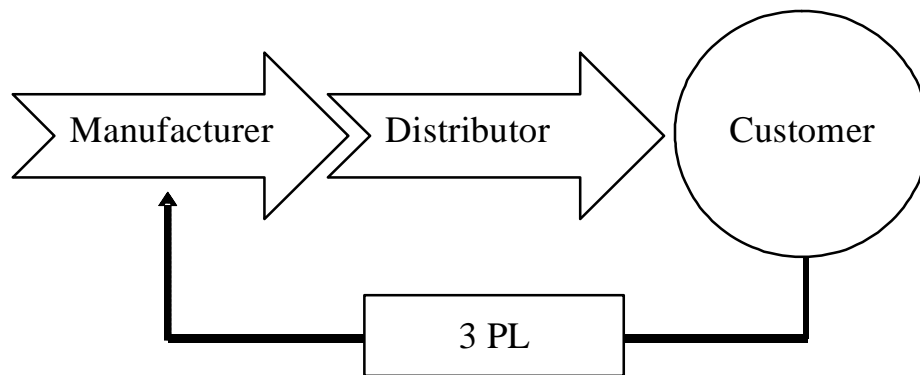


Figure 5: Openloop model of reverse logistics

In this Open-loop model, manufacturer may decide to outsource a recalling service from a 3PL service provider who is specialized for a specific group of products. This provider will undertake the role of reverse logistics including maintenance, repair and recall of the products on behalf of the manufacturer.

Independent operation model: the function of reverse logistics is entirely outside of the supply chain of the manufacturer of initial equipment (Original Equipment Manufacturers – OEMs). These independent operators almost are traditional traders/dealers. of wates and scrap-iron or services companies.

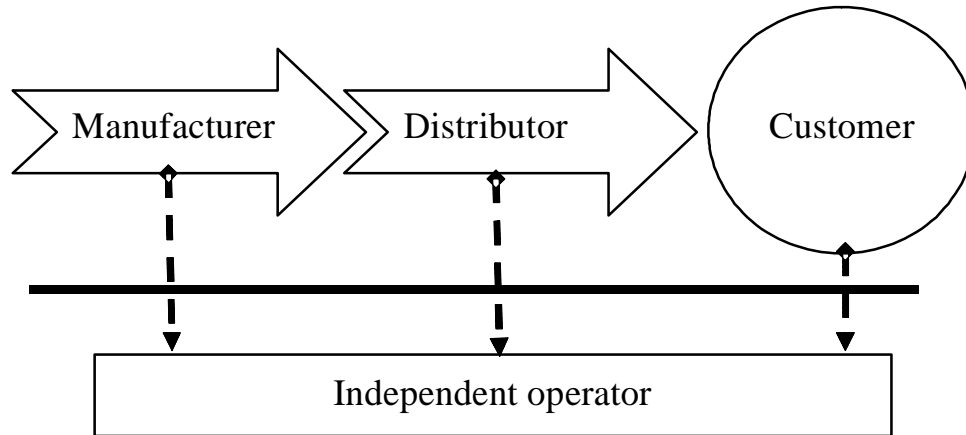


Figure 6: Operation model of reverse logistics

3. THE REVERSE LOGISTICS–THE KEY IN COMPETITION OF COMPANIES

3.1. The Roles of Reverse Logistics in the Supply Chain

In today's fierce competitive environment, reverse logistics is considered a weapon helping company to gain competitive advantage and maintain their position and be more successful in the market. The role of reverse logistics in the supply chain can be seen as follows:

- The most successful strategy of the reverse logistics is an effective combination of Forward logistics and Reverse logistics in one unique procedure of supply chain management. This more emphasizes that companies should be aware of the importance of customer service, financial benefit through coordinating internal and external distribution activities, forward logistics and reverse logistics to create the common benefit for customers and companies.

More attention should be paid to the share of equipment, infrastructure and human resource in activities of both forward logistics and reverse logistics. This will create the advantages in reducing costs, time and enhancing customer service. This is an important point in successful reverse logistics.

- Reverse logistics programs should only be developed for the flow of “uncontrollable” recalled products, not for every types of returned cargoes which can be controlled actively due to the reasons like wrong delivery, wrong quantity, overdue delivery, delivery of damaged products.

This proves that, sometimes, companies carry out the programs for all types of the returned cargoes. So that, motivation in making progress in delivery of quality products, more on-time delivery or reduction of errors in delivery is lessen.

- Products' shorter life cycle requires quicker investment into a circle of cargo recall in the whole system or in the treatment procedure of a company or a supply chain. For example, a personal computer has commercial life cycle of 26 weeks, an electronic semi-conductor has commercial life cycle of 9 months.

Therefore, any delay in the procedure of the forward or reverse logistics also keeps the cargoes inside the distribution circle longer than needed, which leads to reduction of product's value,

making product's price slips faster to the next stage, creating a reduction trend of the price and then the profit.

- High quality product and effective logistics programs within the circle of cargo sales will reduce the quantity of unexpected cargo returned in the reverse logistics. Recall of products needs to eliminate them before being found in order to save time and cost of treatment, store and disposal. The most effective programs of forward logistics and reverse logistics are achieved when the percentage of recalled product is lowest in the whole sales revenue.

So that, many companies nowadays do more investment, more seriously into the reverse logistics because they recognize that the cost spent for dealing with the returned products is not controllable or much exceeds the fund invested for managing the reverse programs methodically.

Therefore, reverse logistics plays an important role in the supply chain.

3.2. Reverse Logistics–the Key in Competition

In businesses' operation, competitiveness pressure makes impact on companies at all stages. Therefore, companies always find all ways to enhance their competitiveness, from saving the total cost, making the specific difference, to focusing on a market share or a product type, etc... For all of the strategic, reverse logistics can be used to enhance companies' competitiveness. This is presented through the below characteristics:

- *Reverse logistics helps forward logistics go smoothly:* In many stages of the forward logistics process, substandard products appear, such as products requiring repair, products with faulty packing requiring relabeling, etc... In order to ensure sending these products back to the forward logistics fast and duly, it needs a range of arising activities of reverse logistics to support this flow of the forward logistics. This shows that, the operation of reverse logistics will contribute in ensuring the smooth operation the forward logistics. In the other words, to achieve high efficiency in managing the forward logistics, companies need to combine the reverse logistics.
- *Reverse logistics contributes into improving the level of customer service:* recalling the products which do not meet customer's needs for correction, repair, warranty and maintenance, etc... will contribute into satisfying better the requirements of customers, enhancing the level of customer service of companies. So that, a good recall policy will contribute into making advantage for companies.
- *Reverse logistics helps saving cost for company:* When a customer requires company to take their product back for maintenance or repair (in almost cases, they are big size products or the distance between the distributor's location and consuming location is so far that consumers can not transport the products by their personal transport means), company must calculate all transport expenses relating to product recall. As estimated, the average cost of reverse logistics makes up about 3% to 15% of company's total cost. However, if companies organize and carry out the reverse logistics well, they can save other costs significantly, such as: saving of materials cost due to reprocessing, saving packing cost due to reuse of packing, collecting the remain value of products eliminated, re-sell products (even with lower price than the new products) to increase revenue,

etc... these economic benefits require companies to invest more, to be more serious in the reverse logistics programs. Because the uncontrollable expenses of dealing with returned products are far more than their investment in the methodical reverse logistics programs.

- Reverse logistics help building the “green” image for company. One of the reasons of today environment serious pollution is human’s business operation. Therefore, companies need to pay more attention to reduce their business’s adverse impact on the environment by recalling materials, products and packing for recycle or disposal in a responsible manner. In addition, customers, authorities and the public also often highly appreciate companies’ friendly behaviors to the environment. This confirms that if companies carry out reverse logistics well, it will contribute into making the “green” image of the companies in the mind of customers and they can implement well their social responsibility.

4. CONCLUSION

In company’s operation, reverse logistics plays an important role in helping company to increase their business efficiency. However, using only forward logistics is not enough because it hasn’t taken advantage of all trong points of logistics. Through the above factors, reverse logistics is once more confirmed as a solution, helping company to enhance their competitiveness in today’s business environment. The importance is companies’ ability to build their reverse logistics model and to apply that model to their business operation activities.

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Reverse Logistics—are you ready?

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