

Challenges and scope of reverse logistics in E-commerce - an analysis

Amarjeet Singh Mastana^{1*}

¹Assumption university, Bangkok, Thailand.

*amarjeetsinghm@gmail.com

ABSTRACT

Logistics within ecommerce has played a key part in getting the right product to an appropriate buyer in perhaps the most environmentally friendly way possible. It thus boosts the organization's brand image and lifts the total consumer game to the next level. High rivalry among retailers forces them to outperform their customers' expectations by providing high-quality goods and services. A well-managed reverse logistics system can provide organizations with a competitive edge. Manufacturers with superior reverse logistics infrastructure can deliver greater customer service while reducing operating margins and shortening lead times. Additionally, reducing the duration that return items are halted in reverse routes but also ensuring precise extraction process offer firms with a competitive edge. The issues and challenges of reverse logistics control are numerous and diverse. These are a lack of control over outsourcing, an absence of significance, timetable restoration & unpredictability, limited life cycles, slow rate of retrieval, and an inadequate infrastructure and absence of data analysis. Automation is projected to encourage some of the greatest rates of innovation in reverse logistics of any development methodology due to its far-reaching and revolutionary advantages.

Keywords

Reverse Logistics, forward logistics, e-commerce, outsourcing & competitive advantage.

Introduction

The global spread of the internet has resulted in several transformations inside cultures and the global economy. With the introduction of ecommerce, businesses are striving to become more efficient, agile, and responsive. Logistics are important to the success of ecommerce businesses in this broader enterprise to consumer (E2C) sector. The amount has increased dramatically as the quantum of commercial activity has risen significantly. There is a discrepancy between the actual item and the image of the goods displayed on the internet, resulting in returns. Also, buying patterns have altered significantly for things such as clothing, where it is difficult to determine if a particular length will be in shape or not, so a buyer reserves numerous goods and then picks one or more based on how real the garments appear and returns the others. Furthermore, if a client discovers the best to be substandard or do not meet his or her expectations, the client will return the items. These returned products are now sent through a logistics system known as Reverse Logistics.

The post-sales servicing, return processing, and repair activities are all covered by reverse logistics. They are a set of strict methods used by

firms to extract value from items and packaging that have reached the end of their useful life. Within the modern business age, it is a vital organizational competency. This is a corporate responsibility. Product removal, reclassification, reconditioning, and reshipment to the original place of sale or other secondary markets are also included as well as excess inventory returns, purchaser returns, obsolete merchandise, and seasonal inventory returns. Asset recovery and recycling, gaining enterprise gain, generating improvements and advantages in production and market supply operations, and meeting legal duties are all goals of reverse logistics.

Forward logistics is the process of delivering finished goods to clients. Forward logistics includes inbound logistics, which is the process of supplying raw materials and components for completed goods, and outward logistics, which is the process of delivering finished goods to clients. There are specific segments and sub of advance logistics that can improve results while increasing costs. Run duration, shielding packaging, third-party participation, seasonal demand, advertising mix, matching scheduling, provider pricing, channel competition, volume connection, push and pull techniques, and wholesale and retail techniques are among these considerations.

Literature Review

Forward logistics and Reverse Logistics.

Reverse logistics looked to be somewhat distinct from forward logistics. The differences may be seen in seemingly unrelated activities such as prediction, assembling, transportation, price, inventory control, and advertising. Similarly, disparities develop in functions such as production process, destinations, quality control, operating costs, and location information.

The Principles of Reverse logistics.

“5R” principle - This concept attempts to establish an ecological value, limit the harmful impacts of nature on human health, stress the reuse of existing structures, materials, and facilities, and promote resource and material recycling, which includes the following objectives.

- REDUCTION can help to reduce waste.
- REUSE items and garbage.
- REFUSE to buy things that are harmful to the environment.
- REFORM materials before reusing them.
- RECYCLE rather than THROW AWAY

Table 1. Forward logistics and Reverse Logistics.

Forward Logistics	Reverse Logistics
Forecasting is relatively simple.	Forecasting becomes particularly important.
There are far too many distribution locations	There are a few distribution locations.
Product quality is consistent.	The product quality is inconsistent.
Congruent product packaging	Occasionally, product packaging is compromised.
Clearly defined destination / route	Uncertain destination / route
Choices for disposition are obvious.	The alternatives for disposition are unclear.
Pricing Consistency	Pricing is determined by a variety of things.
Forward distribution expenses are readily apparent.	Costs that are less obvious
Inventory Control that is Consistent	Inventory Control Is Inconsistent
Product life cycle planning	Product lifetime is convoluted.
Simple to understand Inter-party bargaining	Due to the new considerations, the negotiation has become more complicated.
Well-known Marketing Techniques	Marketing is complicated owing to a number of issues.
Process Transparency	Process is less transparent.

Source: Croxton, K. L., García-Dastugue, S. J., Lambert, D. M., & Rogers, D. S. (2001).

Reverse Logistics in ecommerce.

Logistics within ecommerce has played a key part in getting the right product to a appropriate buyer in perhaps the most environmentally friendly way possible. It thus boosts the organization's brand image and lifts the total consumer game to the next level. High rivalry among retailers forces them to outperform their customers' expectations by providing high-quality goods and services. Amazon, for instance, guarantees one-day shipping to its consumers. For the majority of the items, E-Bay provides free or extremely

inexpensive shipping expenses. Aside from the greater pleasantness of the items, buyers place a high value on clean delivery. Pricewaterhousecooper released an article that examined the important motivations that prompt businesses to implement a reverse chain approach, as well as how they integrate this technique within existing process, expertise, overall organization. Deloitte, a well-known consulting firm, has discovered that engaging with reverse logistics through the forward logistics network is expensive and becoming extremely difficult.

Strategic Advertising and Generous Return Policies

Strategic advertising and generous return policies have resulted in an increasing need for green reverse logistics management. These guidelines are widely integrated in the majority of selling strategies used by various vendors, including local store, catalogues, smartphone, and Ecommerce, wherein buyers were usually authorized to return the items whether they are unsatisfied. (Premkumar, R., Kaliani Sundram, V., & Naidu, B., 2015).

Electronic Business

Electronic business is just the practice for advertising items using digital means, as compared to conventional tactics of marketing through stores. Customers cannot view, touch, or feel the object before purchasing, electronic business organizations often have more liberal return policies. Despite the fact that product information in Digital Shops have enhanced as in previously, the fee for returning items through Electronic Companies is substantial. Making generous return regulations available is not enough to enhance and keep client agree with in Electronic Businesses. They suggest that an effective reverse logistics management mechanism is desired due to the lack of face-to-face contact with buyers, invisibility, and digital divide seen between consumer and perhaps the seller.

Environmental Protection

The USA, UK and European governments mandated clean legal directions for the disposal of white items to producers and suppliers. Similarly, the Japanese authorities also additionally mandates those manufacturers need to collect, transport and recycle domestic and office trash to the manufacturers' plants. Japan's strict disposal rules require manufacturers to furnish up to 25% of all new machines using retrieved units, components, additives, and items.

Euro Zone States, American and other Asia pacific governments implemented trash transportation, prevention, and emission control

levies and restrictions, requiring producers to handle reversed goods. Dealing with the disposal of digital products, including private computers, that contain hazardous elements from Lead, mercury, cadmium, chromium, and bromine are examples of current environmental concerns. Consumer and environmental protection law are equally relevant to online shops on the grounds that all merchandise, consumables, home appliances, computerized household equipment, and yet many retailing objects may now be sold online.

Economic Gains

Some send back products can be resold at a higher rate in a special market. Cordless phones, for example, were called back from one market and then changed and resold at a higher price in another. Reusing items, parts, or recycling components from returned items can result in significant economic advantages. This is evident inside the USA wherein there are over 70,000 jet and car engines, auto components and photocopier remanufacturing companies depending upon reverse logistics.

Key competitive tangible benefits

Effective distribution supply chain is vital for enterprises. Providing client value and maintaining middle competence in reverse logistics can result in strategic profits to enterprises. Companies which have a higher frequency of returned items widen their knowledge or even have a greater understanding in reverse logistics.

A well-managed reverse logistics system can provide organizations with a competitive edge. Manufacturers with superior reverse logistics infrastructure can deliver greater customer service while reducing operating margins and shortening lead times. Additionally, reducing the duration that return items are halted in reverse routes but also ensuring precise extraction process offer firms with a competitive edge. Monthly, Xerox, for instance, updates thousands of workplace printing equipment, as a result, the employer may move quickly to provide little disruption to clients' day-to-day activities. (Dissanayake, 2007).

Problems and Challenges of Reverse Logistics.

The issues and challenges of reverse logistics control are numerous and diverse. These are a lack of control over outsourcing, an absence of significance, timetable restoration & unpredictability, limited life cycles, slow rate of retrieval, and an inadequate infrastructure and absence of data analysis.

Lack of control over outsourcing

Most enterprises rely on third-party reverse logistics providers. There is however a limitation of rules and coordinated record management among companies and third parties, which has an impact on reverse logistics services. As a result, shipments become unnoticeable and therefore are not logged in the agency's data system, implying that they may no longer be considered for capacity recycling till the product actually returns on the facilities. This has a detrimental impact on company since it makes it extremely difficult with supply chains to schedule rework on product returns. As a result, poor communication amongst companions and facilitators causes problems in the administration of returned items.

A lack of significance

It hasn't really received the same level of attention like similar enterprise operations given the lack of knowledge among organizations about the benefits of optimizing returns. This shortage of expertise frequently leads in organizations failing to provide the necessary assets to operate a well functional reverse supply chain. Many business owners are likewise hesitant to utilize existing management information systems to track refunds. Several industrial companies underestimated the advantages using reverse logistics planning. businesses lost out on several possibilities due to a scarcity of technically sophisticated and integrated logistics activities for both reverse and forward transportation. (Dissanayake, K., 2007).

Timetable restoration & unpredictability

In reverse logistics planning, decision making takes place in an exceedingly unpredictable environment. As a result, scheduling reverse

logistics activities and recovering returned items is more difficult and predicting the exact quantity of material at an assembling facility is challenging.

limited life cycles, slow rate of retrieval, and an inadequate infrastructure

Problems in obtaining returned items could limit the usefulness of goods, particularly anyone with short lifecycles. The item lifetime has been one of the fundamental notions in reverse logistics management. Returns with limited lifecycles, such as electrical items, machinery, and equipment, must be handled swiftly so recovering value before they are discarded. Due to the high deterioration speeds of items with a short life duration, prompt return management is essential.

Absence of guide for data analysis

An effective reverse logistics data analysis that offers data online may improve reverse supply chain control. Modern data must be designed to enable reverse logistics techniques within environments wherein reverse logistics control is identified as a value-brought action. Despite organizations employ a variety of techniques to collect reverse logistics data, there seems to be none dedicated application nor equipment aiding with reverse supply chain control.

Conclusion

With the fast accumulation of external forces in the distribution sector, it is worthwhile to examine what reverse logistics will look like in the future. Reverse logistics will almost certainly play an important part in the viability of company structures, besides the value of reverse logistics operations will almost certainly have an influence on the competitiveness and sustainability of both supply chains and sectors. Automation is projected to encourage some of the greatest rates of innovation in reverse logistics of any development methodology due to its far-reaching and revolutionary advantages.

Smart tagging for tracking and tracing: Connecting items in real-time at various stages of their lifespan is at the heart of digital logistics

activities. By combining next-generation super-high-frequency RFID, sensors, data recording, and on-chip analysis with beacons sensors, retailers and manufacturers may attach items and track them throughout entire trip. They may also categorize products as broken, worn, replace, or recycling, allowing for a more effective and accurate supply chain system.

Flexible returns for a better customer experience: Today's clients need greater control across every stage of the logistics system. A well-designed, adaptive returns system should allow clients to drop off return applications at a convenient place, where they may be monitored using sensors and beacons and processed properly. UPS, a pioneering distribution network innovator, initiated this activity through UPS Returns Flexible Access. The program expedites the return of transported products to the company's warehouse without the hassle of creating transport labels for clients or the need for additional staff.

Drones with autonomous motors for faster delivery and returns: Drones are the future of logistics transport because they address two major challenges: driver shortages and long-haul driving force weariness. Drones, which are powered by robotics technology, not only offer most effective transportation on the same day, within a few hours, or even minutes, but also handle returns on the same day.

Warehouses with Internet of Things capabilities for storage efficiency, operation, and safety: RFID tags, sensor, trackers, robotics, and smart machinery may be installed in IoT-enabled smart warehouses, allowing for greater storage space application and also safe, more cost-effective, and quicker workflows.

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