THE ROLE OF REVERSE LOGISTICS IN MANAGING PRODUCT RETURNS IN E-COMMERCE

Abstract

With the rise in e-commerce, there has been a sharp increase in returned items. Organisations have been bearing the cost of processing the returns to woo today's customers, who expect an easy and speedy returns process. The returns have a significant impact on the profitability of the sellers and the environment. A comprehensive reverse logistics strategy and process are needed to minimise the losses and maximise the value from returns. The reverse logistics process comprises processing, tracking, and transporting the return, storing it, and handling disposal options. AI, automation, big data, and IoT can enable organisations to reduce the costs associated with returns processing and optimise the process. An integrated, seamless reverse logistics function with an end-to-end owner enables accountability and transparency.

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E-commerce is thriving and product returns are seeing a corresponding growth. In-store purchases have a return rate of five to ten percent, but for online shopping, the number soars to 15 to 40%. The volume of returns is expected to reach over a trillion dollars annually in the coming years with the global growth of e-commerce. If not managed well, the financial impact of returns could become unsustainable for many retailers.

The higher return rate for online shopping is primarily due to a tangible physical examination of the purchased item being possible only post-delivery. Especially with apparel, selecting based on pictures or videos and the provided size details leads to customers ordering items in multiple sizes and colours. So, in many cases, for a single purchase, there are multiple return items with the sale and return shipping costs borne by the retailer.

The increasing quantum of returns could also be due to on lenient return policies. Retailers are allowing longer return windows and online returns in stores to woo customers in a highly competitive space. Return fraud is another area of concern for online merchants. Counterfeiting involves buying a luxury brand item and a fake copy of it and returning the fake while getting refunded for the original luxury product. Another kind of returns fraud is where the shopper buys an expensive item and a cheaper one, exchanges the tags, and tries to return the cheaper item in place of the costly product.

With growing online sales and easy returns becoming an inherent part of the business model, returns are bound to be an increasing cost and the new norm. Less than half of the returned goods are resold at full price, and around a quarter end up in a landfill. Globally, billions of dollars are lost on returns. Organisations must prioritise handling returns as a critical part of their operations rather than handling it as an afterthought. A streamlined and tailored reverse logistics process reduces costs, fulfils customer needs, maximises sustainability, and enhances brand images.

Reverse logistics is moving goods back from the customer to the seller or manufacturer. It aims to recapture value or ensure proper disposal. Whether an organisation is an internet-only, a pure bricks-and-mortar, or a hybrid clicks-and-mortar seller, developing a reverse logistics strategy is a significant effort and requires thorough planning. The design process should involve analysing the journey of a theoretical shipment from the origin, the customer initiation of a return, to the final disposition. Whether a third-party logistics (3PL) provider is employed or internal processes are developed, reverse logistics is a three-pronged approach: a software solution, a supply chain, and reverse commerce.

The reverse logistics process comprises processing, tracking, and transporting the return, storing it, and handling disposal options. The disposal options are reselling as new, reselling as a return, repairing and refurbishing, recycling, or assigning to scrap. A returned product should be thoroughly inspected to determine whether it should be resold as new or used. It goes back on the shelf if it can be sold as new. If it is to be sold as used, it might need sprucing up to ensure it is a quality product. There are several channels to minimise return costs. Holding open-box sales and second sales are popular options. Online marketplaces dedicated to selling returned, liquidated, or excess merchandise to certified resellers are the returns disposition channel of choice for many companies.

AI supports return logistics before the purchase through recommendation engines that extract insights from consumer purchase data and behavioural history to minimise the probability of returns. AI and automation technologies provide a range of solutions for the labour-intensive reverse logistics process. The initial challenge is cost-effective transportation from the customer to the supplier. Based on real-time and historical data, an AI-based solution can find the best-fit delivery service provider and the fastest and most cost-efficient route. AI-powered predictive models can analyse patterns using historical return-related data to optimise planning, staffing, and equipment needs. Connected logistics using IoT and big data provide real-time visibility and tracking to prevent product loss during transit.
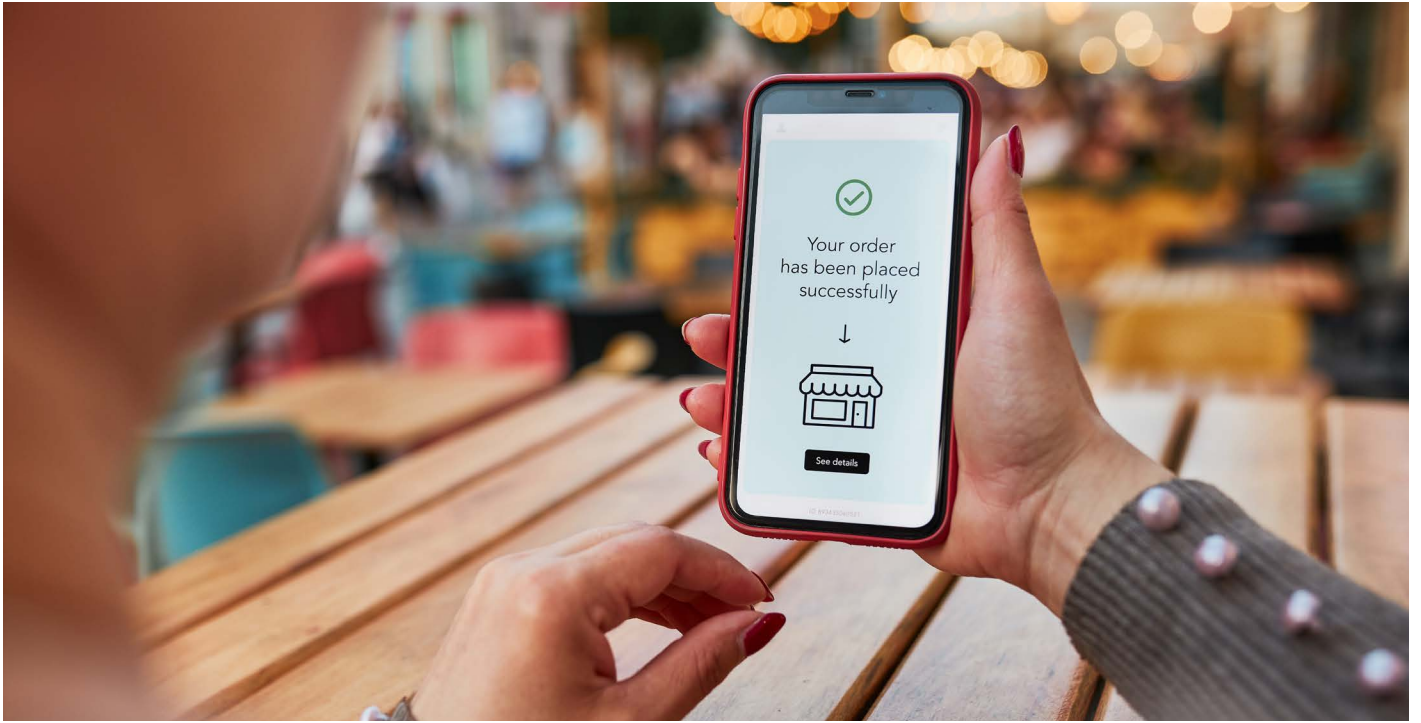
Intelligent scanners with character recognition can extract data from labels and documents to facilitate tracking and categorisation. If a replicated fake is transported back to the warehouse, ML tools can help prevent it from being reshelved. Smart tags can be used to avert scammers from replicating authentic items. Intelligent sensor systems, trained on data collected from previous returns and known fraud methods, can scan the returned goods to detect the slightest irregularity that indicates a fake. AI-based automated sorting systems assess the product's condition and use product-related data to help choose whether reselling, re-routing, liquidation, recycling, or scrapping is the optimal repurposing option for the returned goods. The organisation gains the most value by assessing merchandise at the earliest and moving it to where demand is highest.

Design for reverse logistics (DRFL) involves designing products and packaging while taking into consideration reverse logistics requirements. For instance, organisations should create products with standardised components and interchangeable parts, enabling easier repair, replacement, or upgrading. Packaging should be designed to easily flatten, collapse, or be compacted to save space for efficient transportation. Providing clear return instructions and return address labels within the package enables earlier returns and curbs depreciation. Manufacturing with sustainable materials will reduce the ecological impact and can be a selling point for today's eco-conscious customers.

An automated, intelligent, and streamlined reverse logistics process has numerous benefits. The most important one is happier customers. A convenient, easy, and transparent returns process will ensure loyal customers who return. Manufacturers and retailers gain as an optimised returns process maximises the value obtained from return products, improves margins, and minimises the cost of handling returns. Advanced analytics based on the returns data can provide insights that improve inventory management and sales. Sustainability-based reverse logistics reduces the environmental impact of returns by increasing reuse, refurbishment, and recycling. Efficient routing and transport lessen the associated carbon footprint.

In today's world of omnichannel shopping, customers expect an integrated, seamless returns experience. A reverse logistics function with an end-to-end owner enables accountability and transparency and can prevent losses caused by dissatisfied customers and external liabilities.

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