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Comparison of Cross-Border Reverse Logistics of a Fast Fashion Brand in China

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ABSTRACT

With the advent of "Industry 4.0" and the associated disruption caused by such rapid digital transformation, the logistics industry was able to develop cross-border delivery and increase demand for any given product. However, the risks associated with Cross-Border Reverse Logistics (CBRL) remain largely unexplored, and there is a paucity of research in this area. Hence, this study's objective is to investigate the e-commerce delivery system and CBRL model of a major fashion brand. The study is based on a case study approach comparing the CBRL processes of the Zara official site with one of their main channel partners, Alibaba. Data was collected through archival records, a secondary data bank and interviews with Zara representatives for a deeper analysis. The analysis reveals that both Zara and Alibaba's official sites currently have issues with their CBRL operations. The development of cross-border logistics represents a great opportunity to improve current Zara's and Alibaba's e-commerce platforms business model. In a very competitive market, a lack of a cross-border logistics system could represent a potential loss. Compared to local reverse logistics, cross-border remains at a relatively primitive stage. However, local reverse logistics can provide insights to Zara and Alibaba towards developing and improving CBRL. The case findings lay the foundation for a better understanding of CBRL e-commerce's challenges and support the need to optimize these systems to improve customer service in China.

Keywords: *cross-border, e-commerce, fast fashion industry, reverse logistics*

1. INTRODUCTION

As a result of the recent development in e-commerce, international transportation and digital adoption, customers are able to easily purchase products from overseas platforms. Due to the shortcomings of local e-commerce channels, customers prefer to use cross-border e-commerce platforms (Chen & Yang, 2020). The development of global transportation, better pricing, and a large variety of products offered were also important factors that contributed to its development. According to the Chinese Ministry of Commerce, imports rose by 36% in 2021, while exports grew by 38.6%. Fast fashion businesses also developed their international operations during this time. Their products and delivery methods are extensively accepted by customers all across the world due to their high frequency and high-value propositions.

Most businesses have loose and convenient return policies to increase their competitiveness. It is challenging for a company to create its own cross-border logistics systems since cross-border e-commerce necessitates cooperation across numerous nations. This is so no matter what level of insourcing or outsourcing the organization has already achieved in terms of the development of its cross-border logistics (Šaković Jovanović et al., 2020). There are a number of challenges to overcome in that area, and in order to make some focused solutions, this paper will explore the Cross-Border Reverse Logistics (CBRL) of Zara, a fast fashion retailer brand operating in the e-commerce environment. Customers of Zara must buy their products via foreign websites in nations where there is neither an official website nor any physical retail outlets. In China, several channels allow customers to purchase their products online (Ling, 2015). Therefore, for comparison purpose, this study review Zara and Alibaba's official sites to figure out the differences between both channels. This leads to the following first research question:

Q1. What are the differences and resemblances between Zara and Alibaba's returns management?

Since online customers cannot try the product before purchasing it, return rates in e-commerce are higher compared to in-store shopping. Thus, to encourage customers with their purchases, e-commerce channels offer return policies with loose/generous terms. However, due to the unique modus operandi of each channel, customers must return the product using the same channel as the one used for

delivery. This is inconvenient for customers, and an organization should establish a seamless delivery/return system for their customers (Guerrero-Lorente et al., 2020). A more sophisticated model would improve the CBRL process, and the returned products could be sold again immediately. With a rapid inventory turnover, costs and benefits should remain at an optimum level. Compared to domestic transactions, cross-border e-commerce involves high transportation costs, high handling costs, longer return cycles, larger inventory storage facilities and a higher risk that products may be damaged during in-transit (Wang et al., 2020). Therefore, it is much tougher and costlier for e-commerce businesses to manage cross-border orders. While the fast fashion industry is relatively mature, organizations are experiencing difficulties due to the globalization process. This led to the following second research question:

Q2. What are the difficulties experienced by Zara and Alibaba in developing their CBRL operations?

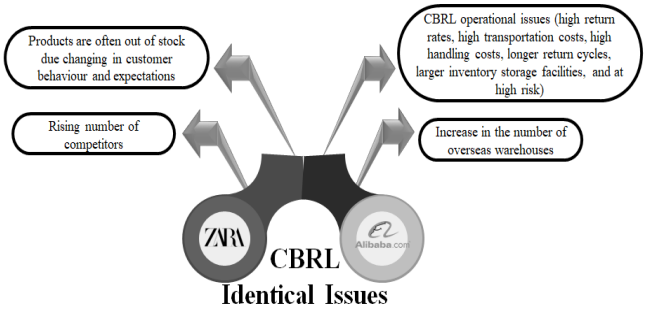

Figure 1 Zara and Alibaba Identical CBRL Issues

Figure 1 outlines some of the CBRL identical issues faced by Zara and Alibaba. Although there is an abundant stream of research deliberating the fast fashion industry, apparel inventory management, and reverse logistics, nevertheless, there is a paucity of research focused on CBRL in the e-commerce setting. Most of the research is theoretical and descriptive. Case studies of different fast fashion companies are rare, and yet, the study would help in understanding more details of these fields. E-commerce is a fast-expanding kind of retail with particular benefits. For instance, the supply chain is much more responsive due to real-time cyber-physical traceability and visibility technology (Huang et al., 2020). However, the development of e-commerce has outpaced research, and this may slow down further development in this field. Instead of just checking what is happening in practice, the purpose of research is to give the market direction. Both theory and practice would need to be combined to provide a solid basis. Comparable, the references to CBRL e-commerce are dispersed and not concentrated on a single industry, according to Giuffrida et al. (2017).

Although logistics and reverse logistics are critical components, research is scarce in these areas (Bask et al., 2012). With the relatively recent increase in the number of overseas warehouses, research is still limited. In addition, there are numerous unresolved issues concerning CBRL addressed by building and operating overseas warehouses (Cui et al., 2022). Research has not been able to catch up with the rapid development of e-commerce and provide a sense of direction for future innovation. Current theories relevant to e-commerce offer limited insights and do not always agree on the best business practice to be followed in a given scenario. This has been of little help to practitioners experiencing difficulties in forecasting market demands or trying to reduce risks (Choi et al., 2014). To partly fill up this gap, this study will examine cross-border e-commerce and contrast several CBRL management channels in the fast fashion industry. This paper will attempt to address the above two questions and offer suggestions and possible solutions for effective CBRL management in the fast fashion industry. After a literature review and a discussion on methodology, this paper will discuss diverse reverse logistics management options using different channels. This will include a discussion of the advantages and disadvantages of each option. Finally, possible solutions to address some of these limitations will be proposed.

2. LITERATURE REVIEW

Cross-border e-commerce has provided more options for customers to compare products and take advantage of the best value proposition. E-commerce has also fueled the growth of fast fashion omnichannel, a sector where it's crucial to spot trends and quickly get products to market before demand dwindles (Jahed et al., 2022). Compared to other industries, the fast fashion industry has to be more agile and flexible. The fast fashion industry's supply chains must be more responsive. It enables businesses to place several small-volume orders and maintain low levels of product inventory. After years of practice, this mode is considered the best option. However, this mode also often brings one of the worst customer experiences as the products are often out of stock. A high stock level does not translate into higher profits. Conversely, a low stock level may also cost the company dearly in terms of loss of sale opportunities as there is very little flexibility if the demand for a given product (Chen et al., 2016). Hence, balancing inventory levels is a major challenge that fast fashion brands need to address carefully. E-commerce shopping has a greater return rate than shopping in brick-and-mortar businesses. This is because customers are unable to inspect the products before placing orders. Each product that a customer order requires them to fill out a purchase order and go through the entire cycle.

For a better and more practical understanding of this topic, the large and mature business model of the Zara company was selected. In cross-border e-commerce, the option of returning products is a major consideration for overseas customers. To provide customer convenience, some companies set up an overseas warehouses to collect and store returned products. However, there are substantial costs associated with storing and handling a high volume of inventories (Zhang, 2021). Therefore, it is a challenge to balance the interests of the customers with the bottom line of the companies. Therefore, the next frontier for research and innovation in the global e-commerce industry will likely be a flawless and affordable purchasing experience for customers. Pando et al. (2021) analysis of how to determine the ideal inventory level uses the relationship between profit and total cost; moreover, sharing information is one method suggested by Zhang (2021) for reducing stock levels, and Li et al. (2018) highlight the efficiency of outsourcing as a solution to the return and inventory issues. This study will be based on the foregoing and explore more related content.

2.1 Cross-Border E-Commerce

Due to the convenience of the online product selection process and payment methods, e-commerce has become very popular among the younger generations. However, because of the unique characteristics of e-commerce, businesses must expand their operations and the reach of the entire supply chain. The same goes for e-commerce, which is a platform that depends on mobile payments (Taylor, 2016). As a modern business model relies on technological advancement, e-commerce collects information on end-users and obtains valuable information to profile these customers and forecast market demand for certain products (Wang et al., 2020). Comparable, cross-border e-commerce offers an attractive combination of lower costs and timely delivery. It resolves the information asymmetry issue and efficiently combines information on logistics and cash flow. However, orders processed by cross-border e-commerce tend to be fragmented, in small batches, and with strong seasonal variations to satisfy a rapidly changing and unpredictable customer demand. (Giuffrida et al., 2021).

Compared to the brick-and-mortar store, e-commerce requires a substantial upgrade of the information and logistics flows, a seamless transportation system as well as better cash management (Jalil, 2017). For a cross-border transaction, it usually takes more than 20 days for a good to reach the customer compared to only 3 days to reach a local end-user. Accordingly, Van Asch et al. (2020) noted that the requirements for the development of cross-border e-commerce via air transportation include a) the capacity for quick pre-clearance of products, b) the need for aircraft to fly to important locations, and c) the size of the land for the necessary storage capacity. Therefore, at the international level, speed is of the essence. A modernized transportation system and an efficient distribution network are considered key competitive advantages in the CBRL e-commerce business. In that regard, free trade agreements and the establishment of tariff-free areas have facilitated its development by reducing the time for products to be cleared and by making cross-border inventory management more efficient. Similarly, Hasan et al. (2020) posited that through better use of technologies, companies could improve the collection of information about their customers. This would allow these organization to improve their preordering and advanced booking systems. In turn, with better manufacturing planning, organizations could improve their workflow and become more cost-efficient.

2.2 Inventory Management

Inventory management is a key factor in boosting sales and enhancing the customer experience (Gaur et al., 2014). An inventory build-up is costly and may be an early sign that the company will experience financial difficulties in the future. However, the main objective of inventory management is not to manage cash flow but to assess what would be the optimal stock levels of a company's inventories at any given point in time. While proper inventory management techniques have a positive impact on cashflows. Inventory management is a critical component to optimize if an organization wants to improve the performance of its supply chain. A better supply chain performance lowers the overall cost structure of an organization (Huo et al., 2020; Zaid et al., 2018). Poor inventory management could negatively impact the resilience and flexibility of a given supply chain.

Yang and Shen (2015) discussed the just-in-time (JIT) storage mode used in cross-border business. In this mode, inventories are perceived as having a negative impact on cost and efficiency. This explains the extensive use of JIT in the fast fashion brand industry, where efficiency, small batches of products and speed of delivery are essential. However, the recent Covid-19 pandemic has changed the view of many managements team, who now think that the increased efficiency associated with JIT may have been at the expense of the supply chain's resilience to external events. Moreover, Caro and Gallien (2010) pointed out that the transit model could be used to optimize distribution and warehouse inventory management. However, while the transit model can reduce the stock levels of distributors, an accurate forecast of what the customers need remain the most convenient way to control inventory levels. Li et al. (2018) also suggested that fast fashion brands would need to outsource certain warehouse management and introduce more flexible human resource (HR) practices to significantly improve overall warehouse performance.

According to Qi et al. (2020), to achieve the objective of reducing inventories to an optimal level, accurately predicting customers' demand remains a better solution. On the other note, Jaipuria and Mahapatra (2014) noted that the supply chain's bullwhip effect directly affects inventory levels. Such effect can only be moderated by improving forecast on demand for certain products, optimal batch sizes, anticipated price fluctuations and supply shortages, as well as nan-zero lead-time. Therefore, advanced technology will help to improve inventory management. Chan et al. (2012) and Nier et al. (2020) pointed out that radio frequency identification (RFID) and drone technology help in tracking products and improve inventory management.

2.3 Overseas Warehouses

China established numerous national comprehensive pilot zones and implemented policies to encourage a business model combining the Internet, brands, and overseas warehouses in order to quickly grow cross-border e-commerce (Chen & Wang, 2016). To complete the global service network, there are more than 1,900 overseas warehouses and 13.5 million square metres of storage facilities worldwide (Xinguang & Jinxiu, 2022). The main purpose of establishing overseas warehouses was to minimize risk, as these facilities are not affected by the implementation of current international import and export policies. Furthermore, cross-border e-commerce also benefited from quick customs clearance, quick delivery, and better service from foreign warehouses, which helped to mitigate Covid-19's negative effects. Avoiding a second border crossing may also raise the local repurchase rate and make CBRL more convenient. Ultimately, this optimized the logistics of the last-mile delivery (Rajendran & Wahab, 2022).

Government policies, consumer demand trends, and the selection of the specific warehouse distribution model all have a significant role in determining where overseas warehouses are located (Hu et al., 2021). While the location and delivery model directly impact the timeliness of cross-border transactions, these do not constitute the main

challenges. Indeed, due to the different logistics systems used in other countries, it is particularly difficult to track all the transactions in real time. The asymmetry of information also leads to several issues, especially with regard to the accuracy of the forecast. Hence, it is necessary to configure overseas warehouses for big data support (Zhang, 2021). This allows the organization to better analyze and forecast customer demand and establish an effective online cross-border logistics platform. It will help companies to reduce losses and to assess the best location for their overseas warehouses (Lin, 2021).

2.4 Fast Fashion Industry

Fast fashion is an industry that requires a very efficient internal system to monitor a large volume of products in small batches with a high turnover. A sophisticated information system is necessary for the current fast fashion business model (Arrigo, 2020). Regular inventory checks and the right level of restocking are required. Thus, to handle unexpected fads, fast fashion companies must produce small batches to address the ever-changing customer preferences. Fast fashion companies are choosing to maintain low levels of inventory and enhance the responsiveness of their supply chains as e-commerce grows (Jahed et al., 2022). This is to avoid the deep discount usually associated with large excess inventories.

The most popular business model in the fast fashion industry is called the "safety-first" (Weinstein et al., 2021). In this model, orders are placed with high frequencies, and inventories are kept at a low level. In addition, to maximize profits, fashion brands prefer to adopt the make-to-order system (Han et al., 2019). This model does include certain risks even though it works well in the short term. For instance, the Covid-19 pandemic highlighted the risk of having a very lean inventory with very little slack to address any emergencies. Towards optimizing the inventory level, fast fashion retailers forecast customer desires with cutting-edge technologies. This, in turn, impacts the orders placed with their upstream garment manufacturers and fabric suppliers (Weinstein et al., 2021). However, the demand is continuously fluctuating as some customers in e-commerce strategically delay their purchase based on the expectation of a discount for a given product. This does impact an organization's ability to manage its inventory levels. Thus, to reduce demand variability and improve forecast accuracy, a stable pricing policy may be part of the solution (Akan et al., 2021).

It is difficult to understand how profit and inventory are related. However, a higher gross margin positively correlates with a shorter inventory turnover. As a result, not all businesses would benefit from a low-stock and high-frequency inventory management strategy (Pando et al., 2021). All businesses in the fast fashion industry should put their primary emphasis on the selection and application of inventory management to optimize profit. A dual channel is an effective business model for reducing inventory expenses (Yang et al., 2016). A low order quantity could result in a stock-out, which would have a direct negative impact on profitability. Moreover, a long manufacturing cycle may result in missed sales opportunities for products in high demand. Although low inventory levels can lower inventory costs, nevertheless, the frequent low-volume orders necessitate quick coordination at every stage of the supply chain. In order to handle inventory difficulties, the fast fashion business may choose to manage inventory while it is in transit.

Preorder online, pick-up in-store (POPU), a new business model, was developed following the emergence of numerous e-commerce platforms. A stable collaboration between a brick-and-mortar store and online retail platforms allows an organization to share information and resources to reduce transportation and inventory costs. Because more and more people prefer to shop online, the website's design has a direct impact on how customers behave. Sorting products based on stock level may be a useful inventory management strategy (Chen et al., 2016). This is an efficient approach to persuade customers to buy difficult-to-sell products and lower stock levels at the warehouse. It is obvious that inventory management is intimately tied to the planning and design of the store and website.

2.5 Reverse Logistics Management in the Fast Fashion Industry

Optimal reverse logistics can enhance the competitive advantage of a company. Such a system comes with charges for product repacking, restocking, and shipping (Baek et al., 2020). The opposite procedure, however, can immediately promote repeat business and boost the company's bottom line by offering a better client experience. According to Urek (2014), the most expensive link in the supply chain for e-commerce is the reverse system idea. Gutierrez-Gutierrez et al. (2016) posited that lean six sigma (LSS) is an appropriate process improvement methodology for the supply chain management. LSS should be part of a long-term strategy that can improve the quality of product delivery and, ultimately, customer satisfaction. However, at this point in time, only a few companies are fully implementing this method.

Optimizing reverse logistics can also benefit a company's inventory management. With a regular in-time inventory update, the returned products can be sold again immediately, and this can reduce inventory costs. According to Usama and Ramish (2020), reverse logistics management is all about establishing a proper balance between speed and costs. The data showed that online shopping has a return rate that is twice as high as traditional brick-and-mortar stores. In this situation, a shorter period of time for returns results in a decrease in inventory. Due to the specialized process of replenishment and reuse, reverse logistics are also a delightful approach to increase the sustainability of the supply chain. Quantifiable measurements that are used to identify certain activities can also be used to forecast a company's inventory level. Comparatively, based on the data analysis of the returned products, customer behaviour can be examined (Truc Doan et al., 2018).

Jian et al. (2022) in their study highlighted that customers prefer not to be charged for the costs of returning the products. Customers believe that a favourable return policy means better product quality and a better shopping experience. Before purchasing a product, most customers will check whether the company has a free return policy. This directly translates into a better shopping experience and greater customer loyalty (Baek et al., 2020). In the fast fashion industry, this behaviour and perception are amplified as customers buy a sizable quantity of different products and

return a larger portion of them after trying them at home. The return rate in the fast fashion industry is twice as high as the other brands (Das et al., 2020). Although a reduced return rate would be preferable for companies to manage their inventory, that goal is challenging to attain due to customer behaviour and expectations. Hence, to reduce customers' propensity to do so, companies should design a website that clearly shows the details of their products to potential customers. Companies have to consider reducing the complexity of returning operations. Additionally, Kalpoe (2020) also mentioned that return location has an impact on the speed of return. The more return locations strategically located, the faster the return process.

3. RESEARCH METHODS

The study is based on a case study approach comparing the CBRL processes of the Zara official site with one of their main channel partners, Alibaba. Both Zara and Alibaba are the main leagues in their marketplace. Zara is known as a flagship brand in the textile industry; meanwhile, Alibaba has witnessed industrial evolution since the early stage of e-commerce. Thus, Zara and Alibaba are both excellent resources for information regarding the industry's ongoing efforts to establish CBRL's legitimacy. Our study compares different cross-border e-commerce systems implemented by Zara. The purpose of this study is to analyze fast fashion reverse logistics from a cost and inventory management point of view. We employed the case study approach that allows in-depth, multi-faceted explorations of complex issues in their real-life settings for e-commerce. The value of the case study approach is well recognized in the fields of business, law and policy and is suitable for this research due to its complexity. In this study, the CBRL of e-commerce in fast fashion firms will thus be examined using the qualitative research approach.

Two different Zara channels were chosen for comparison. One channel runs both online and offline retailers, while the other just runs online ones. More information and examples of CBRL can be obtained using these two methods. However, to ensure the reliability of these data, only official sources such as the company's annual reports and official websites were used. In addition, customers' opinion was collected to complement our findings. The data collected cover the four steps of CBRL: Step 1 is product collection and inspection; Step 2 is product sorting and checking; Step 3 is return processing; and Step 4 is product storage. This study will also compare the two companies with regard to outsourcing, insourcing, as well as decentralized and centralized systems.

4. FINDINGS

4.1 The Reverse Logistics Framework

Discussing the differences between Zara's two channels' reverse framework in a cross-border e-commerce context is one of the key goals of the data collection. Zara has a mature global e-commerce network, and as a successful company, there is much to learn from it. In terms of cost savings, logistics management is viewed as one of the top areas to focus on. In that regard, the distribution centre location is not the only parameter that impacts its efficiency. Due to the frequent and high amount of orders, e-commerce distribution is more difficult than traditional logistics (Usama & Ramish, 2020). In addition, the maturity of the infrastructure, the quality of local employees, as well as the promotion of favourable policies are also considerations that impact efficiency and location selection (Ling, 2015).

The general reverse logistics structure used by Zara's omnichannel in a global e-commerce setting is reviewed. As shown in **Figure 2** (Alibaba) and **Figure 3** (Zara), both official sites have different ways of processing customer return requests and structuring their overseas and domestic logistics. The return product sorting, processing and storing are also different. Some steps in reverse logistics are either carried out internally by the business or contracted out to a third-party (3PL) warehouse. To achieve greater efficiency and/or profitability, the operations are centralized or decentralized depending on the circumstances.

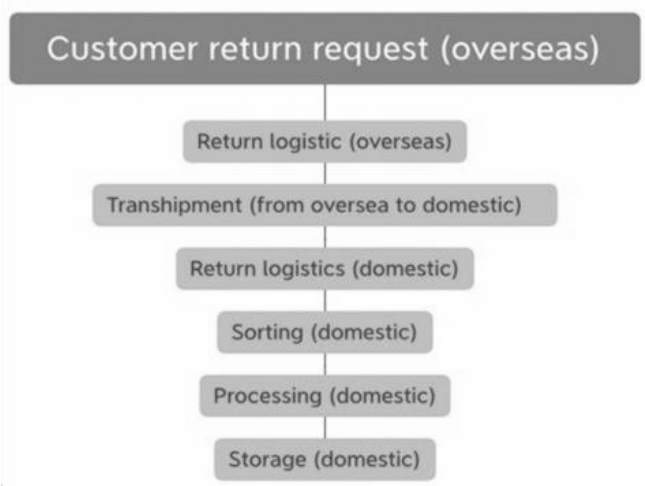

Figure 2 Alibaba Reverse Logistics

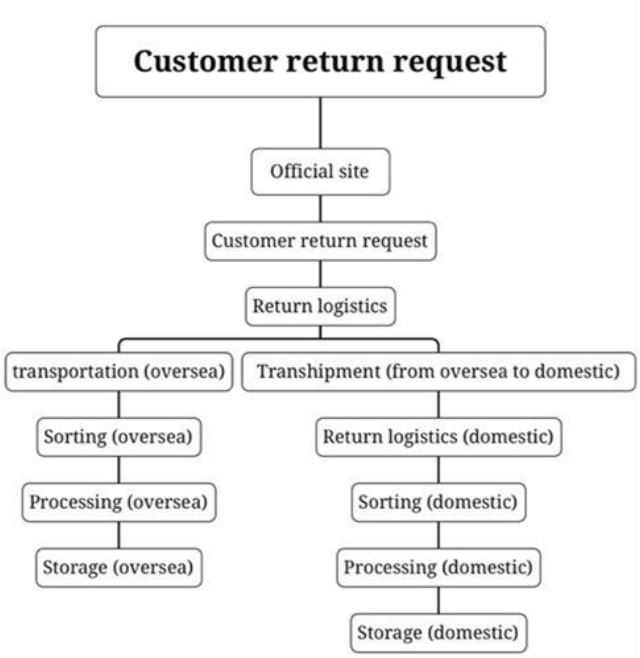

Figure 3 Zara Reverse Logistics

4.1.1 The Reverse Logistics Framework

In the current state, both Zara and Alibaba are unable to develop their own CBRL platform. This is because most

fast fashion companies prefer to outsource this part of the business. In order to create a smooth cross-border platform, fast fashion companies must integrate their systems with those of international shipping companies, which presents a greater difficulty than managing their own systems alone (Chen & Wang, 2016). International delivery typically costs more than domestic delivery in terms of costs (**Figure 4**). For products with low prices and low margins, this can become uneconomic. Therefore, freight costs are an important consideration in reverse logistics.

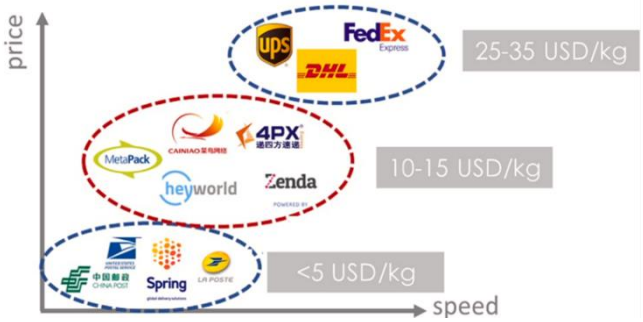

Figure 4 Global Transportation Delivery Chain Business Model. Source: Van *et al.* 2020

Moreover, the official websites of Zara and Alibaba display various delivery options for international shipping. Zara has official sites in many countries around the world. However, the company does not have established cross-border logistics and customers who purchase their products from the official sites have to find courier services by themselves. Alibaba, by comparison, has developed its own cross-border centralized logistics to return products. This facilitates the return process for the customers and helps the company in tracking its products (Ling, 2015). In addition, it should be noted that in the case of Alibaba, freight charges are usually reimbursed if the return is due to defects or issues caused by the company. As a result, customers may be more confident that the transaction will not ultimately result in any losses on their part.

The reverse logistics starts with a request from a customer. Compared to a brick-and-mortar store, an e-payment shopping platform offers a more convenient way to return products. The platform allows users to submit refund requests directly, and delivery services will assist in carrying out the remaining reverse logistics stages (Das et al., 2020). The e-commerce channels will employ reputable payment platforms to safeguard customer rights to privacy and account security. After the products are received and kept in the warehouses for a few days, reimbursements will be given.

Zara uses an automated customer support system to attend to its customers' needs around-the-clock because there are too many customers who access relevant information through e-commerce platforms every day. The system will ask many questions to the customers, and the most common issues can be addressed by an automatic question-answering machine. Hence, many customer return requests can be resolved even before reverse logistics start to be implemented (Inditex, 2020). However, these automatic systems cannot solve more complex problems. The Alibaba site is more advanced than Zara's official website. Alibaba's customer support system blends automated procedures with artificial intelligence (AI). As a result, more difficult issues can be solved, increasing customer satisfaction.

4.1.2 Sorting and Processing

Due to unique e-commerce characteristics, orders are typically smaller but more frequent. As a result, organizing the returns using conventional techniques is challenging. Big data is used in Zara's distribution facility to automatically identify returned products. This cutting-edge technology has the capacity to quickly process an enormous variety of products (Wahab et al., 2021). Zara employs its own ID code to rapidly and automatically identify the returned products in order to better manage the CBRL process (Inditex, 2020). Following the completion of the sorting, these products are held in warehouses, and the information is promptly communicated with the physical stores and e-commerce platforms to create more effective inventory management. Despite the initial investment and development costs for in-source being much higher, the long-term revenue stream may make the investment worthwhile. Thus, Zara, as a mature fast fashion company, should in-source their distribution process so that the operations and core competencies will remain under the company's control.

Zara's distribution centre is also equipped to serve as the hub for all types of commercial transactions, including delivery and the return of products (Luo & Kong, 2021). Zara's returned products are stored in the distribution centre on a centralized basis while waiting to be resold. Additionally, Zara utilizing RFID to better control its operations and the insourcing of inventory management leads to a better margin for the company. On the other hand, Zara, in collaboration with the Inditex group, gives an option to customer to drop their used clothes at the Inditex physical store to be recycled and utilized as raw materials for new products. Even though this service is not considered part of cross-border e-commerce, it is part of the Zara business model to help the company win more customers who are sensitive to that issue.

4.2 Zara and Alibaba's Local and CBRL

Business cases of two organizations operating in the same environment are one of the best ways to collect relevant data and make a useful contribution (Talib & Wahab, 2021). **Table 1** shows the key differences in reverse logistics offers by both companies.

Table 1 Zara and Alibaba Official Site Comparison

CBRL	Zara's official site	Alibaba
Customer support	Online and fully automated	Online and fully automated
Forward logistics	Courier companies	Centralized (several countries)
Reverse logistics	3rd Party Logistics companies	3rd Party Logistics companies
Freight charges for returns	By customers	By customers or companies (depending on the situation)

Sorting and processing	By distribution centre	By distribution centre
Storage	By distribution centre	By distribution centre
Recycle	Available	Not available

4.2.1 The local reverse logistics

Figure 5 demonstrates the local reverse logistics process. When a customer has requested to return a product through the platform, the system will provide customers with the step-by-step process to complete the transaction. Customers only need to drop the returned products at designated places, and the appointed logistics companies will collect the products. The entire return process should not be more than 10 days. To provide a better experience to the customers and entice them to purchase their products, most e-commerce companies will provide a loose return policy to showcase to their customers that the company cares about their experience and the integrity of the transaction (Jian et al., 2014).

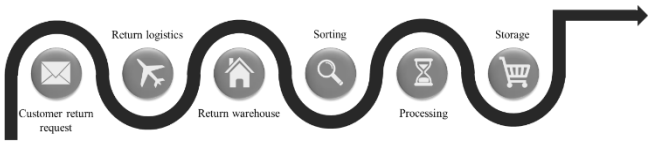

Figure 5 Local Reverse Logistics Process

4.2.2 The CBRL

Compared to local reverse logistics, CBRL is more complex to implement. For instance, returned products must be processed within 45 days of customs clearance, and only if the original delivery method was used to make the shipment. The product is then stored in a return warehouse, where it waits for customs clearance. Since each country has different export and import policies, the whole process is usually lengthier and more challenging (Jalil, 2017). The Chinese government has enhanced its rules to remove any needless processes that could delay the customs clearance procedure in order to provide a better operating environment for cross-border e-commerce. The differences between the original and the present reverse processes are depicted in **Figure 6** and **Table 2**. The reverse logistics procedures for CBRL e-commerce in China are now more standardized, effective, and affordable because of the advent of return centres.

Setting up a seamless transportation platform for both the customers and the companies involved is the main challenge of cross-border logistics because different nations have various policies. As a result, global logistics management is decentralized today. Even though Alibaba has already established its official logistics system in all of the major international markets, there are still several restrictions that make it challenging to in-source international logistics. Alibaba does not, in fact, have complete control over the logistics process because of the 3PL interfaces with different transportation companies. Real-time logistics tracking is, therefore, only possible in the nation where Alibaba sources its products, which restricts Alibaba's ability to expand in other countries. Once the platform is finished, it will be a significant competitive advantage for Alibaba in the future (Jahed et al., 2022).

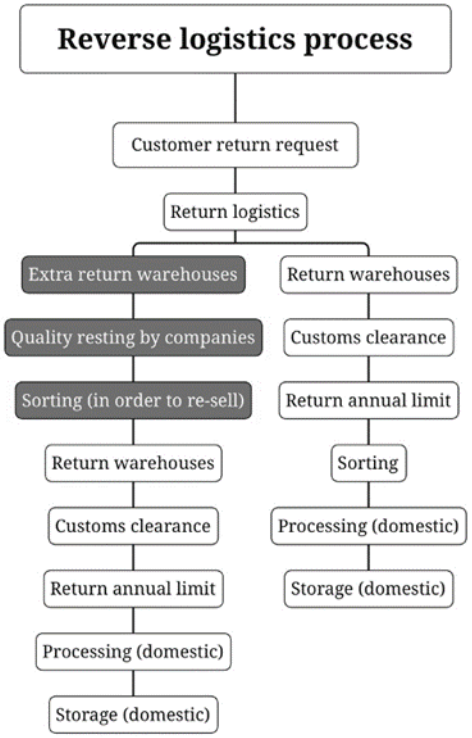

Figure 6 Original and Enhanced Reverse Logistics

Table 2 The Comparison of Two Return Models of Cross-Border E-Commerce

CBRL	Current practice	Enhanced practice
Logistics model	Delivered to the extra warehouses of the customs centre	Delivered to the customs centre
Individual warehouses	Required	Not required. The unoccupied space of customs centres will be used to store the products
Parcel sorting location	Outside the customs centres	Inside the customs centres
Parcel transportation time	Approximately 20 days	Approximately 10-15 days

5. DISCUSSION

The importance of e-commerce has increased since the Covid-19 pandemic started. People stayed at home because of the lockdown measures, which increased e-commerce retail sales. Data from eMarketer shows that while global retail sales fell by 3% during the same time period, e-commerce retail sales surged by 28% in 2020 (Hayakawa et al., 2021). However, a lack of transportation capacity has

hampered cross-border e-commerce. The second quarter of 2020 saw a 0.2% decline in the export volume of foreign trade as compared to cross-border e-commerce in China over the same period. This decreased by 6.3% from the first quarter (Li, 2021). Therefore, the Covid-19 pandemic has hampered the growth of international e-commerce. This demonstrates that CBRL will be more challenging to implement.

Two main issues of CBRL development have been identified, including long lead time and an inefficient inventory management system. Customers desire to speed up the refund process by cutting down on the time it takes to return the product. Similarly, companies aim to expedite the return procedure so they can reshelve the products for later sales (Usama & Ramish, 2020). Zara and Alibaba both offer customers a pleasurable shopping experience, despite the fact that their logistical models differ. In light of the CBRL research, these two channels were deemed to be the most appropriate. Understanding the existing drawbacks of cross-border e-commerce is made easier with the help of the SWOT analysis of these two channels. According to the information gathered, the key distinction between the official websites of Zara and Alibaba is that each one has its own cross-border shipping system.

Even if there is certainly room for improvement, the company's detailed policies enable it to offer customers superior services. The advanced logistics can be simply managed because the packages may be collected from a single location, and the collecting procedures adhere to the same criteria. CBRL, however, is more difficult because shipments must be collected from many locations, and the quality control procedure is difficult to oversee (Hu et al., 2021). Below is a SWOT analysis of the official websites of Zara and Alibaba that goes into further detail about these difficulties.

Alibaba offers an automated customer assistance system in contrast to Zara's official website. It is complemented by AI applications and professional customer services to help customers resolve CBRL issues. Although these incur additional costs, they will likely translate into higher customer satisfaction and loyalty (Chen & Yang, 2020). Although customers pay the transfer fees, these can be refunded if the reason for the return is related to issues that are under the responsibility of the company. Alibaba is able to manage the entire cross-border logistics forwarding process due to the in-sourcing of this function in a number of nations but is still unable to offer CBRL services.

On the same note, Alibaba has developed its official logistics platform for CBRL; nonetheless, it is still in its infancy stage. A similar problem can be observed on Zara's own website, where customers are still required to return their purchases via a 3PL, making it difficult to track the return shipments. Alibaba does not currently have a formal recycling mechanism despite being an integrated e-commerce platform (Ling, 2015). However, some recycling services that are listed on corporate platforms can assist customers in recycling their clothing via the designated platform. Unfortunately, this service is only available in China. **Figure 7** summarizes the SWOT analysis of Alibaba CBRL.

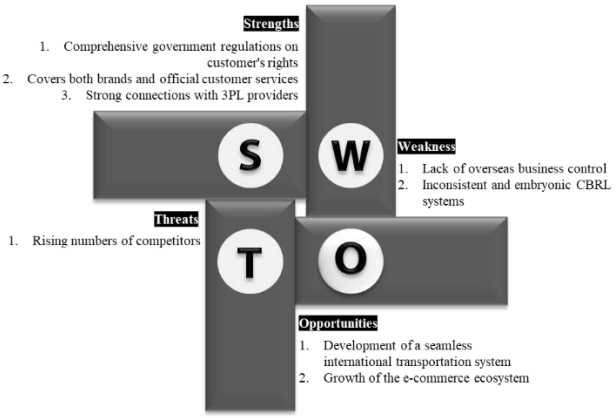

Figure 7 Alibaba CBRL SWOT analysis

Moving forward, **Figure 8** demonstrates Zara's official site SWOT analysis. It is completely automated, and there is no human interaction. Thus, it is more difficult to maintain close interaction with customers' requirements. The system can only answer basic questions that have been preprogrammed and are not able to address any ongoing issues. But the initiative makes Zaras's distribution centre among the most successful and unique in the entire supply chain process. This is because almost all processes of manufacturing and distribution could be in-sourced at the centralized distribution centre of Zara. This has made it possible for the business to seize the largest market share in the fast fashion sector (Ling, 2015).

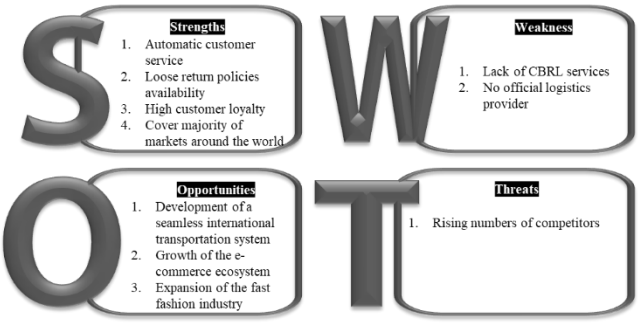

Figure 8 Zara CBRL SWOT analysis

The regulations of home quarantine during the Covid-19 outbreak made cross-border e-commerce more difficult to manage. It makes the frequency of services for international traffic decline while the trade volume significantly increases. Similarly, companies are facing an issue in developing an effective CBRL system. The most challenging part is the collection of the returned products. Since the products have to be collected at different times and from different locations, the situation significantly increases the complexity of the overseas logistics processes. Furthermore, there will be potential losses and longer lead times if the processes are not supervised by the company itself. However, considering the challenges of the post-pandemic environment, relying on 3PL providers can be the best option for a company to rapidly resolve its CBRL issues. Likewise, establishing overseas warehouses is one of the best options to improve efficiency in the fast fashion industry. Four reasons that make overseas warehouses important include improving the product life cycle, shortening the lead time, reducing transfer

charges and simplifying the custom policies related matters (Zhang, 2021).

5.1 Implications

To raise the customer service level, a comprehensive cross-border logistics system must be established. There is no need to worry about storage and sorting procedures because Alibaba is a platform that offers shopping services. Alibaba simply needs to concentrate on improving its cross-border shipping services and customer support. If there is a better cross-border logistics integrated platform, customer happiness will increase dramatically. In contrast, while Zara is struggling to meet the challenges triggered by the Covid-19 pandemic, renting or establishing overseas warehouses that have no official offline stores will be the greatest option. The products can be delivered, returned and resold much faster, and overseas warehouses can also assist in the development of new or poorly served markets. Additionally, 3PL companies with in-depth familiarity and comprehension of international laws and the environment may be the best choice to develop cross-border e-commerce. Similarly, product collection is one of the most challenging parts of overseas logistics. Hence, collection points near residential and office buildings may be the solution for last-mile delivery/collection methods for customers.

The development of cross-border logistics represents a great opportunity to improve current Zara's and Alibaba's e-commerce platforms business model. In a very competitive market, a lack of a cross-border logistics system could represent a potential loss. Compared to local reverse logistics, cross-border remains at a relatively primitive stage. However, local reverse logistics can provide insights to Zara and Alibaba towards developing and improving CBRL. At the current state, both companies have their own strengths and limitations in managing CBRL; however, the finding from this study require further research to validate their findings. As far as CBRL are concerned, Alibaba is currently performing better compared to Zara. Having said that, both companies have established logistics systems with limitations and shortcomings. Therefore, Zara and Alibaba are expected to improve their current services by considering the adoption of AI and advanced technologies.

5.2 Limitations and Scope for Future Research

It should be noted that only two channels of the fast fashion industry have been analyzed in this study. With the development of AI and growth in e-commerce, there is countless companies' fast fashion worldwide to be analyzed. For instance, JD.com, Lifease and Amazon are also thriving in the e-commerce business. Therefore, further research should analyze and compare other key players in the industry to measure the consistency of the current findings. Additionally, the research question can be further tested to validate its applicability in other fast fashion companies.

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