

Elastic Logistics- The Future of Logistics and Supply Chain- A Case Study of Retail Firm.

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Abstract

Purpose – This study aims to educate industries and logistics actors on Elastic Logistics by explaining its background, significance in decision-making processes, and potential efficiency of the supply chain.

Design/methodology/approach – The paper discusses the existing supply chain in one of the retail groups that have operated across the globe and the interview method and case study approach downstream (between warehouse and retailer) has identified the new ways for the effective use of elastic logistics and brought the significant change in the business.

Findings – Findings indicate the potential advantages of using elastic logistics according to business challenges and flexible supply chains that are pacing towards the change as per the market and elastic logistics help logistics capabilities could be improved. The significance of elastic logistics and its use benefit the whole supply chain and partners, especially in the retail and pharma industry.

Originality/value – The use of elastic logistics has the future in the context of innovation and promoting efficiency within the supply chain particularly using technology and the existing resources to bring and provide valuable decision-making to extend the business performance and minimize the cost, delivery time, and accurate demand forecasting.

Introduction: Supply Chain Management (SCM) pursues to enhance profitability by strongly combining internal operations within a firm and linking them with vendors, consumers, and other channel participants (Kim, 2009), (Bokrantz, J., & Dul, J., 2023). According to recent studies, the field of elastic logistics (Choi, 2021) and resilience (Shishodia et al., 2023) is recent, and scholars are evolving in this area which opens up the space to add research to this field in this paper. The notion of elastic logistics is gaining popularity (Lee et al., 2021) as it is highlighted in numerous places throughout the internet. This focus is more concerned with the search for novel logistics and SCM solutions, concepts, and models. It was found through channel surfing on a variety of websites on the internet and analysing the most recent news and trends in the field of logistics that elastic logistics is becoming an increasingly essential aspect of the field as per the trends by (Miceva et al., 2019). Elastic logistics is one of the new trends (Choi 2020), thus it needs to be evaluated and changed in order for businesses and organizations to use it in their operations and strategy. Elastic logistics is a recent development that has been reported on in a number of internet articles (Wang & Sarkis, 2021), (Hohenstein, 2022), (Liu, et al., 2023) It aims to alter how businesses must plan and function in today's dynamic and demanding environment. This study is concentrating on investigating the topic of elastic logistics and the application of elastic logistics in one of the retail sector groups and provides future directions to use the benefits that are associated with the improvement of supply chains, making customers more satisfied, etc. (Kumar & Mallipeddi, 2022), (Rad et al., 2022). To the best of my knowledge, this research is perhaps the first study that attempts to grasp the significance of elastic logistics in the retail industry by studying the firm logistics process as a case study and interview methods from the experts in the group that are used to bring the importance to the study. The following is the structure that this study takes. A thorough review of the relevant previous material comes first as well as the case study description and analysis come the discussion of the results. Thirdly, the paper discusses the benefits and pertinent consequences. Finally, further research directions are indicated.

Keywords: Elastic Logistics, Supply Chain Management, Retail, Trends in Logistics, Trends in Supply Chain Management.

2. Literature Review:

2.1 Elastic Logistics: There are numerous articles and blogs available for reference and understanding, but no official research attempts to explore and examine the new phenomenon. I documented the most pertinent and relevant definitions that could provide readers with the best possible perspective on this development in logistics based on the general context (Carissimi & Creazza, 2022).

According to (FedEx, 2019), seasonal demand is the driving force for elastic logistics solutions. These solutions depend heavily on partnerships to provide them with additional vehicles and storage space, new entry systems to handle more distribution routes, and to penetrate into new markets. The term "elastic logistics" refers to a company's capacity to adjust the size of its logistics operations in response to changes in the demands of both its customers and the market (Loginx 2019). This concept focuses on how quickly a company can introduce the characteristics that it needs to

prepare its supply chain and minimize lead times (Sayarshad et al., 2021), enhance customer delight (Maheshwari et al., 2023), optimize operations (Xu et al., 2023), and speed up the delivery of goods or services (Wang & Sarkis, 2021).

According to (Navata, 2023), organizations employ elastic logistics to run supply chains more efficiently during seasonal activities, as well as scalable elastic logistics upscaling and downscaling. Until recently, the storage and logistics industries dominated lean (Novais et al., 2020) and Just in Time business strategies (Milewski, 2022). Nevertheless, in both cases, these models (Jagtap et al., 2020) are only used on one side of the chain, namely in manufacturing or value-added processes, and not in the middle mile or between logistics (Bag et al., 2022). Hence this study tries to attempt to understand the possibility and significance of elastic logistics in between the warehouse vs warehouse or from warehouse to the customer (Store or direct customer). Notably, according to (Mixmove, 2022), elastic logistics focuses on managing variables such as transit fill rates, container availability, warehousing optimization, and shifting demand optimally in order to maintain a minimally wasteful supply chain. By avoiding unused inventory, enhancing warehouse throughput, and combining client orders as close to the destination as possible (Gruchmann et al., 2019), it ensures the cost-effective use of warehouse space. (GEP, 2023) explains elastic logistics is the capability of a business to promptly reduce or expand logistics actions and infrastructure in line with supply chain demand by using data-driven technology. The ideal management of technology (Hohenstein, 2022), techno-savvy employees (Yuan et al., 2020), and supply chain operations (Kalaiaresan et al., 2023) make elastic logistics possible, and it does with the objective is to deliver a memorable customer experience and competitive advantage. (Zheng et al., 2022), (Choi, 2021).

2.2 Logistics capabilities: The capacity for transportation, the capacity for storage and inventory, the capacity for product packaging and handling, and the capability for managing customers are all essential and major components of the logistics system (Liu et al., 2022), (Goldbeck et al., 2020). When enterprises or service-based businesses distribute their products to customers, it results in the establishment of an organized transportation system within the company (Raut et al., 2019). This system establishes a network connecting customers, merchants, third parties, manufacturing plants, and storage facilities. The value that warehousing and inventory management bring to a company's business can be measured by how satisfied their customers are (Zheng et al., 2022), how much money they spend on variable and fixed expenses (Ali & Essien, 2023), how much time they save their employees by automation (Chien et al., 2020) and optimizing their processes (Irfan et al., 2019), how quickly and accurately they work, and how much faster they work (Putro et al., 2022). The market flexibility, stock level management, and information exchange among both internal and external supply chain partners may all be increased via the use of alternative inventory techniques and the ones that are already in place (Alzoubi et al., 2022).

Understanding and managing client expectations is a crucial factor in achieving excellence in logistics (Table 1). Sharing insights, providing customer care support, and sending or delivering the appropriate goods at the right time are difficult responsibilities. Information and consumer intelligence are crucial to the growth of logistics in a fast-paced environment characterized by internet-based retail shopping. (Sharma et al., 2022), (Alshawabkeh et al., 2022), (Alexander et al., 2022).

Capabilities	Definitions
Pre-sale customer service	The capacity to provide assistance to the consumer throughout the process of making a purchasing decision (i.e. before the customer buys the product)
Post-sale customer service	The capacity to provide after-sale support to customers in order to maintain their complete happiness following the purchase of a product (i.e. return product handling)
Delivery speed	The ability to shorten the time between accepting an order and delivering it to a consumer.
Responsiveness to the target market(s)	The capacity to fulfil the requirements and satisfy the needs of the firm's primary target market(s) (i.e. handle small, frequent orders)
Delivery information communication	The capacity to connect with customers about shipping and delivery information
Web-based order handling	The capacity to manage and fulfil orders using a web-based interface. This also involves communicating logistical details with other participants in the channel.
Widespread distribution coverage	Effectiveness in providing extensive and/or extensive distribution coverage
Global distribution coverage	The capacity to offer efficient worldwide distribution coverage

Selective distribution coverage	The capability of efficiently targeting chosen or exclusive distribution sources.
Low total cost distribution	The capacity to reduce the overall cost of distribution as much as possible

Table 1: Logistics Capabilities adapted from Morash et al., (1996); (Cho, 2008)

3. 3.1. Research Methodology: This study used qualitative research because qualitative research interviews seek to explore and analyse significant themes in the lives of its interviewees. The basic objective of interviews is to understand what interviewees say (Kvale,1996). An interview for qualitative research seeks to cover both a factual and a meaning level, however, interviewing on the meaning level is often more challenging. (Kvale,1996). Due to the paucity of research on elastic logistics, this technique might aid in the comprehension of knowledgeable industry professionals. Interviews are extremely useful for understanding the context of a participant's experiences.

The interviewer can do in-depth research on the subject. To further explore the responses of some questionnaire respondents, interviews may be helpful. (McNamara,1999). Also, all interviewees for this study participated in standardized, open-ended interviews, which allows for quicker interviews that are easier to compare and evaluate (Jamshed, 2014). The panel details of interviewees are listed in table 2 that has vast experience in their areas and these panel interview helped to understand the complexities in the supply chain and how elasticity logistics helped to bring, agility, reduce cost, time and improve efficiency in the process which led to the improved supply chain and satisfaction of retailers. Furthermore, an exploratory case study approach was used because it aids in understanding the firm's supply chain, and these processes assisted me in understanding and answering not only "what," but also "how" and "why" type questions while capturing the information in detail into consideration how a phenomenon changes that were affected by the establishment of a background within which it was positioned (Baxter & Jack, 2008).

Experts	Designation	Experience (In years)	Educational Qualification	Responsibilities
1	Supply Chain Lead (SCL)	>20	Master's in Business Administration	Handling of overall supply chain operations in the firm and coordinating with other departments to ensure all the aspects of supply chain are addressed.
2	Inventory Manager (IM)	>15	Masters in Technology	Manages inventory tracking system to record deliveries, shipments and stock levels. Analyses daily product and supply levels to predict inventory problems and shortages.
3	Warehouse Manager (WM)	>15	Master's in Business Administration	Coordinate and check the receipt, order, assembly and dispatch of goods. Maintain standards of health and safety, hygiene and security in the work environment.
4	Demand Planning Manager (DM)	>10	Bachelors in Technology	Understanding of end-to-end supply chain components including forecasting, inventory management, promotional planning, basic department management, master data management, item lifecycle and disposition, seasonal planning, DC operations, store ordering and operations, supplier planning and order fulfilment. Develops multiple metrics to confirm forecasting accuracy, as per industry standards and communicates corrective action(s) ensures timely resolution
5	Logistics Head (LH)	>15	Master's in Business Administration	Supervising logistics, warehouse, transportation, and customer services. Organizing warehouse, label goods, plot routes, and process shipments. Researching ideal shipping techniques, routing, and carriers.

Table 2: Panel Details

3.2. Case Description:

The study has carried with the understanding of supply chain in general and the application of elastic logistics in one of the largest groups in the retail sector (L) which sells apparel and reason to choose the industry retail was it helps the real-time demand and the literature suggests that elastic logistics can be more efficient in pharma or retail sectors. The key observation and research have been made between the warehouse (W) and the customers (both retailers (R) and Direct

customers (C)). The firm supply chain on the upstream i.e., in between the point of origin (Suppliers (S)) who are residing across the globe they do send material in the form of lots to point W and from point W it will be dispatched to R, and C based on the demand raised. The significant importance in selecting the downstream supply chain is the flow of information is only key to understanding more fluctuations between partners and the warehousing activities like labelling and packing of L brand must happen after receiving from S. Fig. 1 provides the supply chain process before implementing the Elastic logistics in the firm. The assumptions that were taken were the on-time delivery and making products available was the priority in the supply chain. However, the implementation of elastic logistics has successfully helped in the overall improvement across the partners downstream.

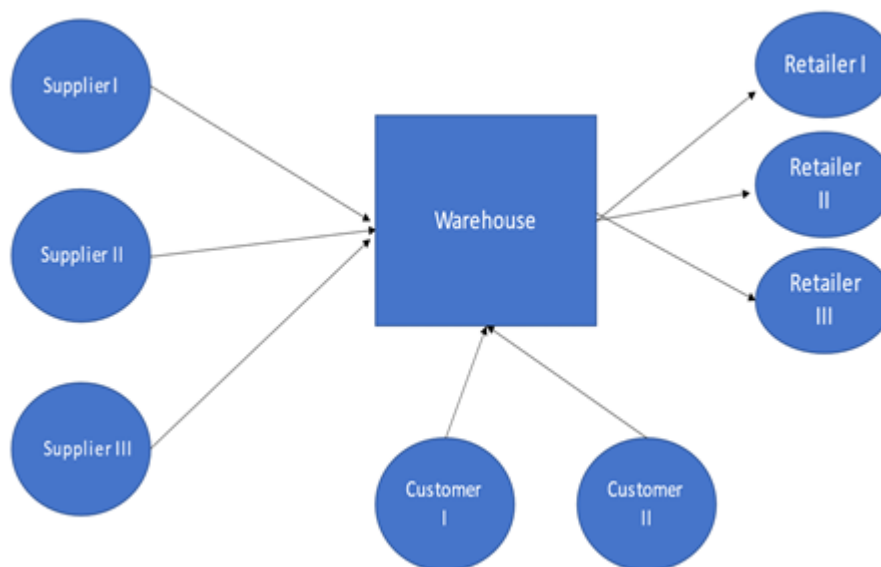


Fig 1: Supply chain process (Own Source)

3.2. Case Analysis: While interviewing with the panel of members the repeated words are agility, customer retention, warehouse optimization, accurate demand forecasting, inventory fulfilment, adaptability, Supply chain performance, and efficiency. Based on these keywords the complete answers have been framed in detail as follows:

3.2.1 Agility: Elastic logistics allows for real-time monitoring and tracking of shipments, inventory levels, and other key performance indicators. This visibility enables organizations to quickly identify bottlenecks, delays, and other issues and make rapid adjustments to their operations. With elastic logistics, companies can dynamically route shipments based on real-time data on factors such as traffic, weather, and delivery constraints. This helps organizations respond to changing conditions and optimize their logistics operations. Elastic logistics enables organizations to quickly scale their operations up or down based on changes in demand. This means that they can quickly adapt to market fluctuations and adjust their inventory levels, production schedules, and transportation capacity accordingly. Elastic logistics promotes collaboration among stakeholders in the supply chain, including suppliers, manufacturers, distributors, and customers. This collaboration allows for greater agility in responding to disruptions and identifying opportunities for optimization.

3.2.2 Customer retention: Elastic logistics enables companies to be more responsive to customer needs and demands by providing the flexibility to quickly adjust and adapt to changes in the market. This can help to ensure that customers receive their orders in a timely manner, which can increase customer satisfaction and loyalty. Elastic logistics can help to improve the delivery experience for customers by providing more delivery options such as same-day delivery or click-and-collect services. This can increase convenience for customers and make them more likely to continue using the company's services. Elastic logistics can help companies to manage their inventory more effectively, ensuring that products are available when customers need them. This can reduce stockouts and increase customer satisfaction. Elastic logistics can enable companies to offer more personalized services to customers, such as customized delivery options or personalized product recommendations. This can help to build stronger relationships with customers and increase loyalty.

3.2.3 Warehouse optimization: Elastic logistics allows companies to adapt to changing demand patterns, by using real-time data and analytics to adjust inventory levels and reconfigure warehouse operations to meet demand. Elastic logistics enables companies to optimize transportation by selecting the most cost-effective and efficient mode of transportation

based on the changing demands, which in turn helps reduce the number of shipments, handling, and storage costs. Elastic logistics can also facilitate warehouse automation, which helps increase efficiency and productivity. By automating routine tasks such as picking, packing, and loading, warehouse staff can focus on more complex tasks, such as optimizing inventory management and meeting customer demands. Elastic logistics can help optimize inventory management by providing real-time visibility into inventory levels, which helps identify potential stockouts and overstocking. This, in turn, helps reduce inventory holding costs, increases inventory turns, and improves cash flow.

3.2.4 Demand forecasting: When it comes to demand forecasting, elastic logistics can help by providing more accurate and timely data that can be used to make more informed predictions about future demand. One-way elastic logistics can help with demand forecasting is by improving visibility into inventory levels and supply chain performance. By collecting and analysing data on factors such as lead times, order processing times, and transportation delays, companies can better understand how long it takes for products to move through the supply chain and reach customers. This information can then be used to identify potential bottlenecks or inefficiencies that could impact demand and take proactive steps to address them. Another way elastic logistics can help with demand forecasting is by enabling faster and more flexible responses to changes in demand. For instance, if there is a sudden increase in demand, elastic logistics enables businesses to quickly ramp up production, change inventory levels, and expedite shipment to guarantee products are delivered to customers on time. By having this ability to respond quickly and efficiently to changes in demand, companies can improve their forecasting accuracy and reduce the risk of stockouts or overstocking.

3.2.4 Inventory fulfilment: Elastic logistics can help companies manage inventory levels in real time based on customer demand, sales forecasts, and supply chain disruptions. This eliminates the possibility of running out of stock or having an excess of it at any one moment, hence minimizing the likelihood of either scenario occurring. With elastic logistics, orders can be processed and fulfilled faster, thanks to automated systems and real-time tracking. This improves customer satisfaction and reduces the risk of cancellations or returns. By leveraging data analytics and real-time visibility into the supply chain, elastic logistics can help companies optimize transportation routes, reduce transit times, and minimize costs. This ensures that products are delivered on time and at the lowest possible cost. In order to adapt to shifts in consumer demand, businesses might use "elastic logistics" to rapidly expand or contract their operations. This ensures that inventory fulfilment remains efficient and cost-effective, even during peak periods.

3.2.5 Adaptability: A flexible and adaptive approach to supply chain management and logistics operations. Optimization of logistics operations and rapid reaction to shifts in demand, market circumstances, or supply chain interruptions are made possible by the use of technology, data analysis, and strategic planning. One of the key benefits of elastic logistics is its ability to enhance adaptability. By leveraging real-time data and analytics, logistics operators can make informed decisions and adjust their operations to meet changing market demands or respond to unexpected disruptions. This allows businesses to quickly adapt to changing customer needs, market conditions, or other external factors that may impact their logistics operations. For example, elastic logistics can help companies quickly reroute shipments in response to unexpected weather conditions or transport disruptions. It can also help businesses optimize their inventory levels and transportation networks to meet changing demand patterns or respond to new market opportunities. In general, firms have the capacity to improve their flexibility and responsiveness by adopting an elastic logistics strategy. This gives them the capability to react more swiftly to changing market circumstances, shifting client needs, and other external variables.

3.2.5 Supply chain performance: When a supply chain has an elastic logistics system in place, it can better cope with disruptions and changes in demand, which can lead to improved supply chain performance. Elastic logistics allows for faster response time to changes in demand or supply. When a supply chain has the ability to adjust quickly to changes, it can minimize the impact of disruptions and reduce lead times. This can lead to improved customer satisfaction and increased sales. Elastic logistics enables supply chains to optimize the use of their resources, including inventory, transportation, and warehousing. By utilizing resources more efficiently, supply chains can reduce costs and improve profitability. Supply chains with elastic logistics can respond quickly to unexpected events, such as natural disasters or supplier disruptions. This increased agility can reduce the impact of such events on the supply chain and helps to reduce the risk of supply chain disruptions. Elastic logistics can improve supply chain visibility by providing real-time data and analytics. This allows supply chains to better understand the state of their operations and identify areas for improvement. Improved visibility can lead to better decision-making and more efficient operations.

4. Findings:

The importance of elastic logistics lies in its capability to improve efficiency, reduce costs, and increase customer satisfaction. By coming up with a flexible supply chain, companies can manage better inventory, reduce waste, and minimize the time to get or deliver products to customers. This can lead to higher profitability and a competitive advantage in the marketplace. In addition, elastic logistics can help companies respond more effectively, and quickly to unexpected events, such as natural disasters or supply chain disruptions. By being able to quickly adjust to changes in the

market or supply chain, companies can reduce or sustain the impact of these events on their operations and maintain business continuity. As was previously mentioned, the capability to immediately scale up or down operations results in an immediate reduction in risk and costs and makes it possible to make prompt and on-time deliveries to the end customer, which is an immediate improvement for both logistics companies and supply chains.

Automated solutions also increase customer satisfaction because they allow clients to modify any necessary details and track their deliveries in real-time. Using elastic logistics in supply chain management entails cutting back on supply chain activities to maximize cost savings. This is achieved by adjusting the procedures for handling the workload, transportation, and delivery to the increasing level of demand, which ultimately results in no monetary loss and real cost savings. Another component of elastic logistics that helps save money and improves efficiency is the control of all computerization processes and initiatives via a single dashboard. This provides continuous financial management since all logistical firms are supervised, their security is enhanced, and the risk of losing anything is reduced. It also implies that unanticipated expenses and initiatives might be swapped for a boost in productivity. Companies pay less money on unutilized space and containers as a consequence of the flexibility of drawing backorders and reacting to demand. Route optimization, when used in combination with artificial intelligence in elastic logistics, provides considerable improvements for both supply chains and organizations that specialize in logistics. Companies in this sector depend on technical tools and efficient warehouse operations to keep them at the top of their game and keep them competitive in the business. The use of elastic logistics within transportation management systems allows for improvements to be made to routes. This allows for the identification of the delivery path that is the most dependable, efficient, and kind to the environment. With elastic logistics, outgoing shipments can be sent on the best route based on what is expected to happen. Deliveries are made on purpose to avoid the risk of bad weather, speed up delivery based on obstacles, and save money by using less fuel, which is better for the environment. Third-party logistics providers, or 3PLs, allow businesses to reduce their spending on internal operations while increasing their agility within the field of elastic logistics, all while contributing to the creation of a low-cost supply chain. As a result, there might be tighter monetary regulation. Even though businesses' requirements are always fluctuating, they may now hire additional carrier space and warehouse space to meet the short-term unpredictable demand in other locations. When dealing with unpredictable supply and demand, using 3PL in the form of a variety of different courier service sectors enables logistics partners to keep one step ahead of the competition. By doing so, Elastic Logistics enhances its superiority in quality scaling opportunities. To summarise, elastic logistics is an excellent technique to foster customer loyalty, improve understanding, and assist businesses in cost-cutting and efficiency. The use of elastic logistics and technology enables route optimization, high-quality cargo flow, and increased warehouse productivity, all of which help increase profit and corporate interest, save money, and please customers. When it comes to the logistics business, companies are worried about adopting elastic logistics since it will allow them to attain the maximum levels of flexibility possible. In return, companies have the potential to reduce their costs, get more attention, and maintain the loyalty of their customers, all of which will help them take their company to the next level, as mentioned by (VICO, 2022).

Elastic logistics and flexible supply chains offer several potential advantages for businesses facing various challenges, including:

Cost Reduction: Elastic logistics allows for better optimization of resources, which can help reduce costs associated with transportation, inventory, and storage. *Improved Customer Satisfaction:* By providing a flexible supply chain, businesses can meet the changing demands of customers quickly and efficiently, leading to improved customer satisfaction.

Increased Agility: Elastic logistics enables businesses to adapt quickly to changes in demand, supply chain disruptions, and other unexpected events, allowing them to stay ahead of the competition.

Enhanced Operational Efficiency: Elastic logistics provides businesses with real-time visibility and control over their supply chain operations, enabling them to optimize their operations and reduce inefficiencies. *Better Risk Management:*

Elastic logistics allows businesses to diversify their suppliers and distribution channels, reducing the risk of disruptions in the supply chain. *Improved Sustainability:* Elastic logistics can help businesses reduce their carbon footprint by optimizing transportation and storage, reducing waste, and promoting sustainability throughout the supply chain.

Improved responsiveness: Elastic logistics can help businesses respond quickly to fluctuations in demand or changes in the market. By utilizing real-time data and analytics, businesses can adjust their supply chain processes to meet changing customer needs or market conditions. This can lead to improved customer satisfaction, increased sales, and better profitability.

Reduced costs: Elastic logistics can also help businesses reduce costs by optimizing their supply chain processes. By leveraging technology, automation, and data analysis, businesses can identify inefficiencies and areas for improvement in their supply chain operations. This can help reduce inventory costs, transportation costs, and other operational expenses.

Increased efficiency: Elastic logistics can help businesses improve their overall supply chain efficiency by streamlining processes, reducing lead times, and increasing visibility into the supply chain. This can lead to faster order fulfilment, improved delivery times, and reduced waste. *Enhanced flexibility:* Elastic logistics can help businesses build a more flexible supply chain that can adapt to changing market conditions, supply disruptions, or other unexpected events. By building a more resilient supply chain, businesses can reduce their risk of disruption and maintain business continuity.

Improved collaboration: Elastic logistics can also help businesses improve collaboration with their

suppliers, customers, and other stakeholders in the supply chain. By sharing data, insights, and best practices, businesses can build stronger relationships with their partners and create a more efficient and effective supply chain ecosystem.

Logistics capabilities can be improved through a variety of strategies and tactics, depending on the specific goals and challenges faced by a particular organization. Here are some common approaches that can help improve logistics capabilities:

Adopting technology: Technology can be a game-changer in logistics, helping organizations automate processes, track inventory in real time, and optimize supply chain operations. Logistics technology includes things like TMSs and WMSs for managing shipping and receiving, as well as inventory management programs. *Enhancing visibility:* Improved visibility into the supply chain can help logistics professionals anticipate and respond to disruptions and bottlenecks, improving overall efficiency. Strategies for improving visibility include using tracking technologies like RFID or GPS, implementing collaborative planning tools, and sharing information with partners. *Streamlining processes:* Eliminating inefficiencies in logistics processes can lead to cost savings and improved delivery times. Strategies for streamlining processes include eliminating non-value-added activities, implementing lean principles, and using process mapping to identify opportunities for improvement. *Developing partnerships:* Partnering with suppliers, carriers, and other stakeholders can help organizations improve logistics capabilities by sharing expertise and resources, reducing costs, and improving coordination. Collaborative relationships can also improve flexibility and responsiveness to changing market conditions. *Investing in training and development:* Investing in employee training and development can help logistics professionals stay current with best practices and industry trends, improving their ability to make informed decisions and drive improvements. This can include training in areas such as safety, compliance, and supply chain management. *Invest in technology:* The use of technology can help to streamline logistics operations and make them more efficient. This might include the use of software for inventory management, transportation optimization, and real-time tracking of shipments. *Optimize transportation:* Transportation is a critical component of logistics and optimizing it can result in significant cost savings and improved service levels. Strategies to consider include using more efficient modes of transportation (e.g., rail instead of trucking), consolidating shipments, and improving routing and scheduling. *Focus on inventory management:* Effective inventory management is essential for minimizing costs and improving customer satisfaction. This might involve using just-in-time inventory practices, implementing more accurate forecasting methods, and reducing lead times. *Improve communication and collaboration:* Effective communication and collaboration between stakeholders are critical for successful logistics operations. This might involve implementing a centralized system for tracking and sharing information, building stronger relationships with suppliers and customers, and improving communication channels between different departments and teams. *Continuously monitor and analyse performance:* Monitoring and analysing performance data can help to identify areas for improvement and inform ongoing optimization efforts. This might involve setting up key performance indicators (KPIs) and dashboards, conducting regular audits, and soliciting feedback from stakeholders.

5. Implications: In order for businesses to manage inventories, shipments, and other supply chain indicators in real time and make data-driven choices, modern technologies like cloud computing, big data analytics, artificial intelligence, and the Internet of Things (IoT) are frequently used. Companies can increase the effectiveness of their supply chains overall and optimize their logistics networks while lowering transportation expenses.

5.1. Managerial Implications:

Increased focus on data analysis: Elastic logistics requires a data-driven approach to supply chain management. Managers need to collect and analyse data on customer demand, inventory levels, and transportation routes to make informed decisions and adjust their supply chain accordingly. *Agile operations:* The capacity to swiftly adjust to shifting client demand or disturbances in the supply chain is necessary for the successful operation of elastic logistics, which needs a high degree of operational agility. Managers need to develop agile processes and work closely with suppliers and logistics partners to ensure that they can respond quickly to changing conditions. *Collaboration with logistics partners:* To implement elastic logistics, you must first collaborate with other logistics partners. This will guarantee that the supply chain is able to react swiftly to fluctuations in demand. Managers need to work closely with logistics providers to develop contingency plans and ensure that they have the capacity and flexibility to respond to changes in demand. *Inventory optimization:* If you want to practise elastic logistics, you need to pay close attention to inventory optimisation so that you always have enough of the correct things on hand. Managers need to optimize inventory levels based on demand patterns and ensure that inventory is located in the right locations to minimize transportation costs and lead times. *Investment in technology:* Elastic logistics requires investment in technology to enable real-time visibility and collaboration across the supply chain. Managers need to invest in supply chain management systems, data analytics tools, and other technologies that enable them to monitor and respond to changes in demand and supply. *Improved responsiveness:* Elastic logistics allows companies to act in respond quickly to changing market conditions, customer needs, or supply chain disruptions. This can help companies avoid stockouts or excess inventory and ensure that products are delivered to customers on time. *Cost savings:* By optimizing their supply chain and logistics operations, companies

can reduce costs associated with transportation, warehousing, and inventory management. Elastic logistics can also help companies avoid costly overstocking or understocking. *Enhanced customer experience*: By adopting an elastic logistics approach, companies can improve their ability to deliver products to customers quickly and reliably. This can improve better customer satisfaction and loyalty, which can have the advantage to increase the firm's sales and revenue. *Increased agility*: Elastic logistics allows companies to be more agile in responding to changes in the market or competitive landscape. This can help companies stay ahead of their competitors and maintain their market position. *Improved supply chain visibility*: Elastic logistics requires real-time visibility into the overall phases of the supply chain, from suppliers to customers. This can help companies identify potential bottlenecks or disruptions before they occur and take corrective action.

5.2. Theoretical Implications:

The key idea behind elastic logistics is that a company should be able to adjust its supply chain quickly and efficiently in response to changes in the market or other factors, such as disruptions in the supply chain or changes in customer preferences. From a theoretical perspective, the concept of elastic logistics has several important implications:

Flexibility: Elastic logistics requires a high degree of flexibility in a company's supply chain. This means that a company must be able to adjust its production, distribution, and logistics operations how fast we respond, and how effectively we are in response to changes in demand or other factors. This flexibility is essential to ensuring that a company can respond quickly to changes that occur in the market and retain its competitive advantage. *Resilience*: Elastic logistics also requires a high degree of resilience in a company's supply chain. This means that a company must be able to withstand disruptions in the supply chain and quickly recover from them. This resilience is essential to ensuring that a firm can maintain to meet customer demand even in the context of unexpected scenarios or disruptions. *Collaboration*: In addition to this, elastic logistics calls for a significant amount of communication amongst the many stakeholders throughout the supply chain. This encompasses a wide range of businesses, such as wholesalers, retailers, manufacturers, and distributors. Collaboration is essential to confirm that all stakeholders are able to take action instantly and effectively to changes within the market along with other environmental factors. *Information management*: Elastic logistics also requires effective information management. This means that a company must be able to gather and analyse data about its supply chain operations in real-time, to understand and make quick and proposed decisions regarding how to adjust its operations. This information management is essential to ensuring that a company can respond quickly and efficiently to changes in the market and other environmental factors. Firstly, elastic logistics can be seen as an extension of the concept of agility in supply chain management. Agility means the ability of a supply chain to respond quickly to changes in customer demand and market conditions. Elastic logistics takes this concept a step further by focusing on the use of technology and data analytics to create a supply chain that can not only respond quickly but can also anticipate changes in demand and adjust accordingly. Secondly, elastic logistics can be seen as a response to the challenges posed by the increasing complexity of supply chains. As supply chains become more complex, it becomes more difficult to manage them efficiently and effectively. Elastic logistics seeks to simplify supply chains by creating a system that is more transparent, more flexible, and more adaptable. Thirdly, elastic logistics be able to be witnessed to increase the resilience of supply chains. Resilience implies to the capacity of a supply chain to retrieve quickly from unpredicted situations and disruptions such as natural disasters, geopolitical events, or pandemics. Elastic logistics seeks to increase resilience by creating a supply chain that is more flexible and adaptable and that can respond quickly to unexpected events. Overall, the theoretical implications of elastic logistics suggest that it can help supply chains become more agile, simpler, and more resilient, which can lead to better performance, increased customer satisfaction, and ultimately, greater competitiveness in the marketplace.

6. Limitations and Future Directions: This study has focused on qualitative research methods using case studies and interview-based methods. Future research can be done using quantitative research methods. Literature has suggested the effective use of elastic logistics in retail and pharma sectors since this study has carried with the retail sector and the future research is extended to the pharma sector along with the comparison of both sectors. Elastic logistics area is untapped due to the ground level challenges like Cost: Implementing elastic logistics requires significant investment in technology and infrastructure, which can be costly for many organizations. In addition, constant adjustments to logistics processes can increase costs and reduce efficiency. Complexity: Elastic logistics involves a high degree of complexity, requiring advanced technology and data analysis to manage effectively. This complexity can make it difficult for smaller organizations to implement and maintain an elastic logistics system. Dependence on technology: Elastic logistics relies heavily on technology and data analysis, which can be a vulnerability in the event of system failures or cyber-attacks. Organizations must have strong backup plans in place to ensure the continuity of operations. Limited scalability: Elastic logistics can be challenging to scale up quickly to meet sudden surges in demand. This is because the infrastructure required to support an elastic logistics system may take time to put in place. Training and skills: Elastic logistics requires a highly skilled and trained workforce to manage the technology and data analysis involved. Organizations may need to invest in training programs to ensure their workforce has the necessary skills and knowledge to manage an elastic

logistics system effectively. Based on the above key limitations future research could be a possible measurement of supply chain performance with the adoption of elastic logistics. The role of information technology and the adoption of elastic logistics in any country specifically based on their economic and infrastructure conditions have a huge potential to expand research. the future of elastic logistics research is likely to be shaped by several trends: Digitalization: The proper use and application of digital technologies like IoT, AI, blockchain, and cloud computing are likely to accelerate in the logistics industry. This will enable logistics companies to collect and analyse real-time data, optimize routing and inventory management, and enhance visibility and transparency. Sustainability: Environmental concerns are becoming increasingly important to consumers and businesses alike. Companies involved in logistics will be required to adopt more sustainable methods, such as decreasing emissions, limiting waste, and using renewable energy. Customization: Consumers are demanding more personalized products and services, which requires logistics companies to provide more customized solutions. This includes offering different delivery options, such as same-day or next-day delivery and allowing customers to track their orders in real-time. Collaboration: Logistics companies will need to collaborate more closely with their partners and customers to improve efficiency and flexibility. This includes sharing data, integrating systems, and developing joint solutions. Resilience: The COVID-19 pandemic has highlighted the importance of resilience in the logistics industry. Companies will need to be prepared for future disruptions by building more flexible and resilient supply chains, investing in contingency planning, and adopting new technologies that can help mitigate risks. Overall, the future of elastic logistics is likely to be shaped by these trends, as well as other technological, economic, and social factors. Successful logistics companies will be those that can adapt quickly to changing circumstances, leverage new technologies, and collaborate effectively with their partners and customers.

7. Conclusion: Supply chains keep changing due to the change in the change in the business environment whether it is external or internal. External forces are the one that leads to disruptions and innovations. Continuous disruptions or meeting the demand can be done when a firm must be able to meet the logistics capabilities in a timely manner. Elastic logistics is the ability to quickly shrink and expand logistical capabilities to align with a supply chain's demand. However, the gap in using elastic logistics use in the various sectors, particularly in the retail and pharma sectors, was untapped. Elastic logistics is defined as the ability to quickly shrink and expand logistical capabilities. Elastic logistics works hand-in-hand with supply chain forecasting, creating an agile infrastructure that can reduce costs and improve efficiency based on the current need of the supply chain. This study might be the first study to do research on elastic logistics use in the retail sector with the understanding of existing supply chain and post-implementation of elastic logistics also discussed. The different phenomena like interview-based and case analysis helped to bring some problems that a firm is facing sorted out with the panel of interviewees. I'm sure that elastic logistics will be used more in the coming decades. It cuts down on human mistakes and makes the production line run more smoothly, which directly helps the company adapt to changes in demand. There is huge potential to the industries if they use elastic logistics in the point-to-point or in between the partners. There are certain conditions that need to improvise in the existing mechanisms that are highlighted in the implications. It is one of the most important aspects of logistics and supply chain management, and I anticipate that the recent surge in technological innovation, combined with the rise of elastic logistics, will cause supply chains to have to be prepared to either increase or decrease their capacity depending on the ever-shifting demands imposed by the various variables of the industry.

References:

1. Alexander, A., Blome, C., Schleper, M. C., & Roscoe, S. (2022). Managing the "new normal": the future of operations and supply chain management in unprecedented times. *International Journal of Operations & Production Management*, 42(8), 1061-1076.
2. Ali, M., & Essien, A. (2023). How can big data analytics improve outbound logistics in the UK retail sector? A qualitative study. *Journal of Enterprise Information Management*.
3. Alshawabkeh, R., Al-Awamleh, H., Alkhawaldeh, M., Kanaan, R., Al-Hawary, S., Mohammad, A., & Alkhawalda, R. (2022). The mediating role of supply chain management on the relationship between big data and supply chain performance using SCOR model. *Uncertain Supply Chain Management*, 10(3), 729-736.
4. Alzoubi, H. M., Ghazal, T. M., Sahawneh, N., & Al-kassem, A. H. (2022). Fuzzy assisted human resource management for supply chain management issues. *Annals of Operations Research*.
5. Bag, S., Gupta, S., & Luo, Z. (2020). Examining the role of logistics 4.0 enabled dynamic capabilities on firm performance. *The International Journal of Logistics Management*, 31(3), 607-628.
6. Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The qualitative report*, 13(4), 544-559.
7. Bokrantz, J., & Dul, J. (2023). Building and testing necessity theories in supply chain management. *Journal of Supply Chain Management*, 59(1), 48-65.
8. Carissimi, M. C., & Creazza, A. (2022). The role of the enabler in sharing economy service triads: A logistics perspective. *Cleaner Logistics and Supply Chain*, 5, 100077.

9. Chien, C. F., Dauzère-Pérès, S., Huh, W. T., Jang, Y. J., & Morrison, J. R. (2020). Artificial intelligence in manufacturing and logistics systems: algorithms, applications, and case studies. *International Journal of Production Research*, 58(9), 2730-2731.
10. Joong-Kun Cho, J., Ozment, J., & Sink, H. (2008). Logistics capability, logistics outsourcing and firm performance in an e-commerce market. *International journal of physical distribution & logistics management*, 38(5), 336-359.
11. Choi, T. M. (2020). Internet based elastic logistics platforms for fashion quick response systems in the digital era. *Transportation Research Part E: Logistics and Transportation Review*, 143, 102096.
12. Choi, T. M. (2021). Facing market disruptions: values of elastic logistics in service supply chains. *International Journal of Production Research*, 59(1), 286-300.
13. FEDEX (2019), Elastic Logistics Driven by Seasonal Demand, Source: <https://www.fedex.com/en-kw/news/edition-1-2019/elastic-logistics-drivenby-seasonal-demand.html>
14. GEP (2023), ELASTIC LOGISTICS: BENEFITS, IMPLEMENTATION AND EXAMPLES, Source: <https://www.gep.com/blog/strategy/elastic-logistics-benefits-and-implementation>
15. Goldbeck, N., Angeloudis, P., & Ochieng, W. (2020). Optimal supply chain resilience with consideration of failure propagation and repair logistics. *Transportation Research Part E: Logistics and Transportation Review*, 133, 101830.
16. Gruchmann, T., Seuring, S., & Petljak, K. (2019). Assessing the role of dynamic capabilities in local food distribution: a theory-elaboration study. *Supply Chain Management: An International Journal*, 24(6), 767-783.
17. Hohenstein, N. O. (2022). Supply chain risk management in the COVID-19 pandemic: strategies and empirical lessons for improving global logistics service providers' performance. *The International Journal of Logistics Management*, 33(4), 1336-1365.
18. Irfan, M., Wang, M., & Akhtar, N. (2019). Impact of IT capabilities on supply chain capabilities and organizational agility: a dynamic capability view. *Operations Management Research*, 12(3), 113-128.
19. Jagtap, S., Bader, F., Garcia-Garcia, G., Trollman, H., Fadiji, T., & Saloniitis, K. (2020). Food logistics 4.0: Opportunities and challenges. *Logistics*, 5(1), 2.
20. Jamshed, S. (2014). Qualitative research method-interviewing and observation. *Journal of basic and clinical pharmacy*, 5(4), 87.
21. Kalaiarasan, R., Agrawal, T. K., Olhager, J., Wiktorsson, M., & Hauge, J. B. (2023). Supply chain visibility for improving inbound logistics: a design science approach. *International Journal of Production Research*, 61(15), 5228-5243.
22. Kim, S. W. (2009). An investigation on the direct and indirect effect of supply chain integration on firm performance. *International journal of production economics*, 119(2), 328-346.
23. Kumar, S., & Mallipeddi, R. R. (2022). Impact of cybersecurity on operations and supply chain management: Emerging trends and future research directions. *Production and Operations Management*, 31(12), 4488-4500.
24. Kvale, S. (1996). *InterViews: an introduction to qualitative research interviewing*. Sage.
25. Lee, M., Hong, J., Cheong, T., & Lee, H. (2021). Flexible delivery routing for elastic logistics: a model and an algorithm. *IEEE Transactions on Intelligent Transportation Systems*, 23(7), 6864-6882.
26. Liu, S., Hua, G., Cheng, T. C. E., Choi, T. M., & Dong, J. X. (2023). Pricing strategies for logistics robot sharing platforms. *International Journal of Production Research*, 61(2), 410-426.
27. Liu, W., Liang, Y., Bao, X., Qin, J., & Lim, M. K. (2022). China's logistics development trends in the post COVID-19 era. *International Journal of Logistics Research and Applications*, 25(6), 965-976.
28. Loginext (2019), How To Implement Elastic Logistics Without Losing Your Workforce, Source: <https://loginextsolutions.com/blog/how-to-implement-elasticlogistics-without-losing-your-workforce/>
29. Maheshwari, P., Kamble, S., Belhadi, A., González-Tejero, C. B., & Jauhar, S. K. (2023). Responsive strategies for new normal cold supply chain using greenfield, network optimization, and simulation analysis. *Annals of Operations Research*, 1.
30. McNamara, C. (1999). General guidelines for conducting interviews, Minnesota. *Missouri Institute of science*.
31. Miceva, M., Angelkova, T., & Kitanov, V. (2019). Implementation of contemporary trends in logistics in the transport companies.
32. Milewski, D. (2022). Managerial and economical aspects of the just-in-time system "lean management in the time of pandemic". *Sustainability*, 14(3), 1204.
33. Mixmove (2022), Elastic logistics - Resilient supply chain management, Source: <https://www.mixmove.io/post/elastic-logistics>
34. Milewski, D. (2022). Managerial and economical aspects of the just-in-time system "lean management in the time of pandemic". *Sustainability*, 14(3), 1204.
35. Navata (2023), What is Elastic Logistics? Benefits and How It Works? Source: <https://navata.com/cms/what-is-elastic-logistics/>

36. Novais, L., Maqueira Marin, J. M., & Moyano-Fuentes, J. (2020). Lean production implementation, cloud-supported logistics and supply chain integration: interrelationships and effects on business performance. *The International Journal of Logistics Management*, 31(3), 629-663.
37. Putro, P. A. W., Purwaningsih, E. K., Sensuse, D. I., & Suryono, R. R. (2022). Model and implementation of rice supply chain management: A literature review. *Procedia Computer Science*, 197, 453-460.
38. Rad, F. F., Oghazi, P., Palmié, M., Chirumalla, K., Pashkevich, N., Patel, P. C., & Sattari, S. (2022). Industry 4.0 and supply chain performance: A systematic literature review of the benefits, challenges, and critical success factors of 11 core technologies. *Industrial Marketing Management*, 105, 268-293.
39. Raut, R. D., Gardas, B. B., Narwane, V. S., & Narkhede, B. E. (2019). Improvement in the food losses in fruits and vegetable supply chain-a perspective of cold third-party logistics approach. *Operations research perspectives*, 6, 100117.
40. Sayarshad, H. R., Mahmoodian, V., & Bojović, N. (2021). Dynamic inventory routing and pricing problem with a mixed fleet of electric and conventional urban freight vehicles. *Sustainability*, 13(12), 6703.
41. Sharma, R., Shishodia, A., Gunasekaran, A., Min, H., & Munim, Z. H. (2022). The role of artificial intelligence in supply chain management: mapping the territory. *International Journal of Production Research*, 60(24), 7527-7550.
42. Shishodia, A., Sharma, R., Rajesh, R., & Munim, Z. H. (2023). Supply chain resilience: A review, conceptual framework and future research. *The International Journal of Logistics Management*, 34(4), 879-908.
43. VICO (2022)"The Future of Supply Chains: Benefits of Elastic Logistics " VICO Logistics: www.vico.com.hk
44. Wang, Y., & Sarkis, J. (2021). Emerging digitalisation technologies in freight transport and logistics: Current trends and future directions. *Transportation Research Part E: Logistics and Transportation Review*, 148, 102291.
45. Xu, Y., Wang, J., & Cao, K. (2023). Logistics mode strategy of firms selling fresh products on e-commerce platforms with private brand introduction. *Journal of Retailing and Consumer Services*, 73, 103306.
46. Yuan, Y., Chu, Z., Lai, F., & Wu, H. (2020). The impact of transaction attributes on logistics outsourcing success: A moderated mediation model. *International journal of production economics*, 219, 54-65.
47. Zheng, H., Li, X., Zhu, X., Huang, Y., Liu, Z., Liu, Y., ... & Li, C. (2022). Impact of recycler information sharing on supply chain performance of construction and demolition waste resource utilization. *International Journal of Environmental Research and Public Health*, 19(7), 3878.

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