

A STUDY ON THE EFFICIENCY OF ELASTIC LOGISTICS IN DIGITAL LOGISTICS COMPANY

Submitted in partial fulfilment of the requirements for the award of

MASTER OF BUSINESS ADMINISTRATION

by

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**DEPARTMENT OF BUSINESS ADMINISTRATION SCHOOL
OF MANAGEMENT STUDIES**

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

Accredited with Grade "A++" by NAAC | 12B Status by UGC |

CATEGORY - 1 UNIVERSITY BY UGC | Approved by AICTE

JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119

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SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
CATEGORY - 1 UNIVERSITY BY UGC**

SCHOOL OF MANAGEMENT STUDIES

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **ANUSHYADEVI.M 42410074** who carried out the Project Training “**A STUDY ON THE EFFICIENCY OF ELASTIC LOGISTICS IN DIGITAL LOGISTICS COMPANY**” under my supervision from September 2023 to November 2023.

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Submitted for Viva voce Examination held on 21.12.2023

Internal Examiner

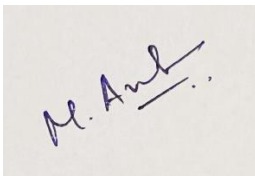
External Examiner

DECLARATION

I **ANUSHYADEVI.M (42410074)** hereby declare that the Project Report entitled “**A STUDY ON THE EFFICIENCY OF ELASTIC LOGISTICS IN DIGITAL LOGISTICS COMPANY**” done by me under the guidance of **DR.D. VELUMONI B.Com, MBA, M.Phil, NET, SET 2012, Ph.D.**, is submitted in partial fulfilment of the requirements for the award of Master of Business Administration degree.

DATE: 21.12.2023

PLACE: Chennai

A handwritten signature in blue ink, appearing to read 'Anushya Devi M.', is written on a light-colored rectangular background.

ANUSHYADEVI.M

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I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

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ANUSHYADEVI.M

30 September 2023

TO WHOM IT MAY CONCERN

This is to certify that Ms. Anushyadevi M (Reg.no.42410074) student pursuing second year MBA at Satyabama Institute of Science and Technology, Chennai, has successfully undergone internship training with a project title **"A study on Elastic Logistics in Supply chain Management"** as part of the academic requirement of the student for a period of 1 month from 1September 2023 to 30 September 2023.

We wish her all the best in her future endeavors.



Senior Manager - Human Resources.

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ABSTRACT

This paper aims to shed light on the emerging concept in supply chain management known as the “elastic supply chain.” This approach has gained significant prominence in response to the challenges posed by the COVID-19 pandemic, which presented unprecedented difficulties for both organizations and consumers. In light of the unique circumstances brought about by the pandemic, various innovative concepts were explored to enhance agility within supply chains. This included collaborative efforts with suppliers and vendors to optimize resource utilization while minimizing the need for in-house material storage, thus relying on the dependability of supply chain partners. It’s important to note that implementing such a strategy requires substantial commitment and cooperation from all parties involved in the supply chain. Moreover, it places a strong emphasis on the sustainability of supply chain operations, as timely product delivery is crucial for the seamless functioning of operations.

Elastic Supply Chain (ESC) management draws inspiration from economic principles and has proven its relevance in navigating the operational challenges presented by the COVID-19 crisis. This paper employs descriptive analysis. It aims to identify how elastic logistics benefitted the Sitics company. Ultimately, the adoption of supply chain elasticity can contribute to enhanced competitiveness by streamlining operational processes. This can be achieved through robust interdepartmental collaboration and the sustainable utilization of resources across the entire supply chain.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The global logistics market size touched USD 4.92 trillion in 2021 and is projected to reach USD 6.55 trillion by 2027. The e-commerce logistics market size was 269.34 billion in 2021. The COVID-19 pandemic of 2020 caused severe supply chain disruptions. Businesses collapsed due to poor resilience during this time, and as a result started reconsidering 'Just in Time' strategies in favour of 'Just in Case' (JIC). 2021 brought about different supply chain and logistics challenges. The shipping and logistics industries faced severe capacity constraints, skilled staffing shortages and unbelievable freight rates. It also experienced port congestions, excessive delays and driver shortages, all due to the after-effects of the pandemic and explosive e-commerce growth.

Although supply chain disruptions will be the norm, the JIC strategy is valid only for safety and business-critical items and not for regular businesses. On the one hand, too much inventory leads to waste; on the other, too little leads to increased risk. To address such challenges, resilience-promoting initiatives, such as flexible logistics and shorter supply chains, visibility and accurate forecasting, are the need of the hour.

1.2 IMPLEMENTING ELASTIC LOGISTICS

Elastic logistics is the ability of a business to rapidly reduce or expand logistics activities and infrastructure in line with supply chain demand using data-driven technology. The perfect synchronization of technology, techno-savvy employees and supply chain operations makes elastic logistics possible. The final objective is to provide a memorable customer experience and competitive advantage. The following are the ways an organization can roll out elastic logistics effectively.

Omnichannel Fulfillment Strategy

E-commerce businesses must rethink their fulfillment strategies and models to be in line with the elastic logistics strategy (reduced inventory through JIT and lean models) to meet the

rapidly changing demands of customers and markets. This strategy provides a seamless experience across multiple devices and channels, both digital and physical.

Microfulfillment Points

Microfulfillment centres help a business rapidly expand its storage facilities to cater to an additional demand. This strategy involves converting additional space within existing stores and offices located strategically in urban areas to ensure quicker and cheaper deliveries.

Automation

Intelligent automation with mindful learning and scalable racks and shelving systems enables rapid adjustments to demand. Automations, such as RFID, barcodes, and robots optimize the warehouse management processes and inventory, such as put away, picking, cycle count, and same day distribution services.

Cloud-based Technology

For a successful elastic logistics strategy, businesses should invest in the latest cloud-based platform incorporating AI & ML technologies. The software delivers actionable insights from data gathered in real time, thus enabling resilience. It enables end-to-end supply chain visibility and optimizes inventory management, planning and demand forecasting. This results in efficient and cost-effective fulfilment strategies and deliveries.

1.3 ELASTIC LOGISTICS BENEFITS

- Customer retention is one of the significant benefits of implementing elastic logistics. This strategy ensures lower costs and faster deliveries in addition to providing real-time tracking to customers.
- Route optimization is another advantage that results in lower overhead costs and quicker deliveries.
- Volatility in pricing is reduced since the logistics facilities used vary per the demand.
- Businesses benefit due to reduced risks and increased resilience.
- The various supply chain and logistics processes are optimized for efficiency.
- Deadstock or out-of-stock situations are reduced, thus ensuring a memorable experience for customers leading to retention.

- Efficient utilization of resources – personnel, money, materials and infrastructure.

1.4 IMPACT OF ELASTIC LOGISTICS ON CUSTOMERS AND BRANDS

Organizations embracing elastic logistics are generally customer focused. One of their primary objectives is to provide memorable customer experiences for retention and gain a competitive advantage. A data-driven optimized supply chain ensures the tracking of products in real-time for updating all stakeholders, including customers. It also allows for effective collaboration between vendors and partners to move packages efficiently. Organizations have complete visibility and control of their supply chains via a single dashboard and have access to custom reporting and analytics. This helps businesses stay on top and expand or shrink their logistics facilities as required.

Elastic Logistics Examples: A leading manufacturer of earthmoving equipment scaled back their production from three shifts to one shift, resulting in lower workforce requirements due to a shortage of steel and other raw materials during the pandemic. Accordingly, they reduced their warehouses to cater to only one plant's input and output items. Another manufacturing company in textiles and apparel moved its entire business online by closing down its physical stores. Most of the staff were retained and trained in handling the new business. These companies were able to implement such drastic measures due to quick thinking, investment in the right technology and reduction in their outsourced facilities and contracted staff. The cost of customer retention is just a fraction of the initial cost of acquiring a customer. Thus, money spent on boosting customer retention is an investment providing high returns to companies and their brands.

1.5 COMPANY PROFILE

DIGITAL LOGISTICS COMPANY

Digital logistics Pvt. Ltd. was founded by A.M.Sikander and Haridas.T. The company was registered in 2007 with a vision of providing services with the highest ethical values to customers and employees. The company evolved into a full-fledged logistics organization as the founders were providing services to a few corporates including MNC's and saw the huge potential of Logistics as a service, as there was a dearth of quality services being offered. The market was vast and services offered were inadequate and fragmented. Digital logistics grew from existing clientele who offered more business and the reputation of the company grew through word of mouth as a reliable partner who can be trusted with large contracts in multiple sites. From being

a small organization, the company quickly grew into a mid-size company as new customers were added and current customers entrusted them with more business. Digital logistics was seen as a go-to company for solutions when customers faced issues of IR or other bottlenecks and were known to provide solutions and take over a number of contracts that the customers were struggling with.

Adding capabilities in warehousing, and transportation and being one of the first movers into the last-mile delivery segment, Digital logistics also went ahead and added more than 4,700 employees to date. This unique advantage was instrumental in Digital logistics signing up with the leading e-com companies. Using technology to enable efficiencies and visibility has added to the benefits offered by Digital logistics, making it a win-win for Digital logistics as well as the customer.

Today Digital logistics offers full-service bouquet of 3 PL and has become one of the largest logistics companies in India offering the entire supply chain solutions. Digital logistics has also scaled up services first in South India and later Pan-India as well. Digital logistics then went onto establish a subsidiary in Malaysia and found a JV partner for Thailand. The vision for Digital logistics is to become an MNC with operations across the world in 3PL services. Malaysia is a stepping stone into the APAC market and within a short period of establishing the subsidiary in Malaysia, Digital logistics has acquired business from very prestigious customers such as Mercedes Benz and Continental Tires.

Digital logistics is poised to capitalize on the scorching pace it has grown with a 40% YOY and become one of the largest Logistics companies.

Services of Digital Logistics

TRANSPORTATION

1. In-bound solutions: This includes transportation of goods, raw materials or semi-finished inventory to a client's factory, manufacturing or processing facility
2. Outbound solutions: This includes the transportation and distribution of finished products originating from a client's facility
3. Primary distribution: This includes the transportation of finished products from the factory to stocking locations.

4. Secondary distribution: This includes the movement of goods from warehouses and stocking locations to the market

SUPPLY CHAIN NETWORK DESIGNING

At DIGITAL LOGISTICS, supply chain network design forms the core of our business. Our SCND business makes us act as a consultant who can design supply-chain solutions for our clients. SCND includes operations like transportation (which may be network-based or a bespoke operation), warehousing (including multi-user as well as lease-to-suit facilities), in-factory logistics (in order to effectively manage the movement and storage within a manufacturing facility), international freight forwarding and certain value added services (such as packaging, bundling, quality checks and kit-building). We also have an end-to-end solutions design team who are trained and dedicated to providing customized SCND for our clients. The solutions created by our Solutions Design Team help improve a variety of supply chain elements for our clients, including cost, quality, scalability and visibility. Our Solutions Design team helps our clients in planning and designing transportation networks and can also re-model storage layouts to bring efficiency in our as well as our clients' warehousing or in-factory logistics operations.

We use technology-enabled tools that we have developed, or helped develop, in conjunction with processes and software to design transportation, warehousing and in- factory solutions across the industry verticals we serve.

FREIGHT FORWARDING

Airfreight imports and exports: Our airfreight service includes cargo pick up, cargo space booking and management, document preparation and destination customs clearance and delivery. We obtain cargo space from the airlines or their appointed agents directly. Our import shipment services include the checking of the estimated date of arrival and preparing the documentation for customs clearance upon receiving the pre-alert notification from overseas freight forwarders or clients. We also provide air charter services, pursuant to which we charter freight aircrafts for our clients.

Sea freight imports and exports: Our sea freight forwarding services include the receipt of cargo or containers from clients, document preparation, obtaining cargo space from shipping agents or from shipping lines directly, customs clearance and delivery of cargo or containers.

WAREHOUSE MANAGEMENT

At DIGITAL LOGISTICS, we offer separate and integrated warehousing solutions to our clients. Currently, we don't own any warehouses, we identify warehouses to suit our client's requirements, customize it and manage its operations. We also provide customized billing models tailored according to business operations and preferences of our clients. All of our warehousing facilities have been obtained through lease or license arrangements with independent third parties based on our client's requirements. The lease or license periods usually match the lease or license arrangements that we have entered into for use of the warehousing facilities for our clients. As on May 31, 2017, we have managed over 1.2 million square feet of warehousing space across India and Malaysia spread across multi-user warehouses to built-to-suit warehouses.

Our warehouse operations use certain technologies for improving productivity and increasing efficiency. We track our operating metrics through a structured process flow for each sub-operation and use practices such as the "warehouse optimization tool kit" for planning and optimizing manpower deployed in warehouse operations, a "layout optimizer" for optimizing layouts, various other technology-enabled tools for optimal storage, retrieval analysis and operations management.

LAST MILE DELIVERY

Our last mile delivery includes supply channel networking through modern/general trade outlets and dealers/ distributors, Institutional customer sites, modern retail distribution centers and multi-pick up drop services.

VALUE ADDED SERVICES

We provide the following value-added services across industries.

- Kitting
- Bundling
- Pre-packs
- Labelling
- Packaging services
- Bar-coding and Labelling

CHAPTER 2

REVIEW OF LITERATURE

The elasticity term has been borrowed from the economic concept (Lim, 2019), which means a change of an economic variable in response to a change in another economic variable (CFI Education Inc, 2022). During the COVID-19 pandemic, there was an unprecedented cut-off of supplies and only the agile and resilient entities sailed through. This goes without saying that numerous companies shut down as they implemented an ordinary supply chain strategy in an extraordinary force majeure situation (Karasan et al., 2021). After an analysis of a few companies that managed to sail through, a unique trait was found which has led to this research that could be a new tactic that numerous other organisations can utilize to be well prepared in the future to safeguard their operations.

Elastic in the supply chain will save a lot of money for the end-user, which we refer here by saying end-user to the companies that have continuous projects as they do have different materials for different projects. Implementing elasticity for such organisations will maintain clear budgeting, reduce storing materials, and provide real-time visibility for the supply chain. All of that will be enhanced by technology that can lead to best practices in the whole supply chain. which can support implementing agile logistics in the organisation and support that technology being adopted within the organisation. Such a method can benefit the organisation in the long run and invest the liquidity of money in the right resources at the right time.

VARIOUS REVIEWS

1. Kumar & Anbanandam, (2020), In the latest supply chain resilience is recommended as it will save the organisation's cash flow, but it will require good communication with the suppliers. Coordination in the supply chain will lead to positive outcomes for the supply chain.
2. Konstantinou et al., (2021), To cope with the sensitivities of the supply chain, organisations must invest in and implement resilience. Some organisations implement resilience in crisis to avoid any operational impact.
3. Wang & Zhang, (2022), Building resilience requires different strategies depending on the type of disruption, the position of the organisation within the supply chain, the effect of the disruption on the organisation and supply chain, and other related factors

4. Fields. R, (2021), Good customer service will give the organisation clear visibility to the customers, which will allow them to rely on it to know the exact requirements even on a daily basis.
5. Kwak et al, (2018), Good communication from customers and vendors will lead to clear requirements and real-time visibility of the availability of products to the customers.
6. Wanganoo & Shukla, (2020), Real-time visibility can be monitored by IoT (Internet of Things), which can easily be observed and implemented to the exact requirements in the supply chain, which will support implementing an elastic supply chain.
7. Alvarenga et al., (2022), When the quality and quantity of the information are reliable, then the customer and the company can plan their supply chain in a proper way and depend on that information.
8. Karasan et al, (2021), Clear visibility of products will impact positively the resilience of the supply chain. The selection of the right pricing strategy can support the organisation in competing with others
9. Kaviyani-Charati et al., (2022), Competitive supply chain can work with agile manufacturers as they are able to react quickly to gain business benefits.
10. Jiang et al., (2021), The fixed price strategy may fail with competitors unless the price is not available from other competitors. In a crisis or inflation, competition decreases and it affects market spending, which will be reflected in the supply chain.
11. Dyahrini et al., (2021), The competitive advantage will create challenges between the suppliers and manufacturers to produce the best product ever and make sure to perform their best performance to gain the opportunity to be the supplier for the organisation that requires the products or service.
12. Milewski & Milewska, (2021), Last-mile delivery (LMD) is one of many countries' concerns nowadays, and it has many challenges as it affects consumer spending and customer satisfaction.
13. Alan, (2020), The need for last-mile delivery and the speed to find solutions for it, especially during the lockdown periods in many cities around the world.
14. IEA, (2020), The need for LMD is not just because the cost of it is very high, as transportation itself produces over 24% of carbon dioxide (CO₂).
15. Belloso et al., (2019), Last-mile delivery is one of the trending topics in logistics around the world nowadays. Many organisations around the world are trying to create solutions for this concern. LMD is a subset of logistics, which is the world's primary field of operation.

16. Ranathunga et al., (2021), The most expensive part of delivering products is the last mile. LMD in smart cities needs to be advanced and meet the customer requirements
17. Coppola, (2022), as the demand for it has been increasing rapidly over time. From the figure in the study, you can see the increase of the demand on the e-commerce as percentage of total retail sales worldwide from 2015 to 2020, with forecasts from 2021 to 2025.
18. Simoni et al., (2020), Sustainability is the core topic of different organisations nowadays. As an organisation becomes elastic in its own operations, it is paramount to consider the sustainability aspects of each function of the supply chain. There are different functions in the supply chain.
19. Wang et al., (2016), The purpose of this paper is to support the finding of a sustainable solution that can be implemented in the supply chain, especially for LMD. That solution can be employed mostly in LMD as it is the most frequently used part in the supply chain and the most harmful part for the environment.
20. According to Choi (2021), elasticity in the supply chain entails the adoption of a supply chain to the market and its main characteristics are its products and the timely meeting of customer demands within its physical capabilities. The synergy of meeting supply and demand links it directly with the concept of elasticity. There can be either the elasticity of supply (in the case of when perfect competition exists) or the elasticity of the marginal cost curve (in the case of monopoly), which can showcase the ability of a supply chain to quickly adapt or retract in its operations.
21. Jedliński, (2021), Looking at the supply chain, the primary definition says it is the movement of goods from source to end user in value addition, that is, the transformation of raw materials to finished goods to meet customer demand.
22. Deepak Raj (2021), has studied the elastic logistics concept by focusing on explaining and implementing a framework of companies and managers to adopt in their business. This paper highlights the implementation aspects of Elastic logistics model in terms of time flexibility in serving customers.
23. TSan- Ming Choi (2020), has studied the service supply chain with which the logistics service provider (LSP) has to decide the quantity of capacity to reserve to satisfy future demand in the upcoming season, which depend on whether market disruption occurs or not. The author has also explained the importance of elastic logistics and proposes conditions and measures to achieve improvement in the supply chain by the adoption of elastic logistics.

24. Shoeb Ahmad (2020) has highlighted the key strategies like elastic overheads, elastic outsourcing and elastic blend.
25. Michael Wilson (2019) has studied the characteristics of elastic logistics by highlighting the ability to quickly shrink and expand logistical capabilities to align with a supply chains demand.
26. Sunil Chopra, Peter Miendl & Dharam Vir Kalra (2016) have identified the key supply chain drivers for supply chain performance such as facility, transportation, information, inventory, sourcing and pricing.
27. According to Hugos (2011), the supply chain key performance drivers are products, process, facility, transportation, inventory and information driven decision making.
28. According to Loginext (2019), Elastic logistics denotes the ability for companies to reduce or effectively expand or reduce thier logistics capabilities in order to handle customers' and market's demand. This concept is based on speed attributes that a company has to implement to prepare its supply chain and reduce the lead times, increase customer satisfaction and deliver the products or services faster.
29. Afflink (2019) stated that this model is working effectively based on forecasting methods that arise from big data and automated solutions according to modern technology, providing the ability to adjust easily on changes.
30. American Group (2018), identifies Elastic Logistics with flexibility dimensions for Accommodating demand fluctuations, and pointed out that there is need for cost and time Control on production and warehouse's operations, transportation and customer management.
31. At the LogiSym (2019), a magazine referred that modern supply chains and global market, are Driven not only by products and prices, but also by the uncertain environment that derives from Consumers' expectations, political and economic issues. As a result, an elastic supply chain Strategy is vital in order for a company to be active and adjust operations through data, and Infrastructure to serve higher volumes of demand effectively.
32. Logistics Bureau (2018), this model has its roots back to lean management practices. However, elastic Logistics practices are not only delimited by reducing wastes, costs' control or Perfection in general, but they are also forced by consumer's need "I want it now". There is a need of designing activities that will accommodate the demand based on multichannel concept, To maintain and support customer service level and to

maintain flexible resources or assets that Enable the organization to face external challenges and consumers' trends.

33. Rebecca et al, (2011), This method is developed through specific steps and understandable Criteria that define research scope, objectives and the conducting methods of academic or other Sources of information and publications. It is a commonly used method. That many professionals and academic researchers use in order to integrate scientific research For many academic and scientific fields and other business sectors. To be more specific
34. According to Siddaway et al (2019), it is known that many studies are developed every year and Each of these studies use different tools, methods, sample or criteria to analyze the topics and For this reason systematic review enable author to justify their thesis and the research gaps areas.
35. Titiko et al (2019) referred that in order to be developed a Well-structured systematic review authors need to satisfy a content that consist an establishment of the research work that have been done before and to interpret meaningful problems, to Examine relationships and paradoxes of the current literature and to investigate the reasons of These facts, to generate declarations and forms of concepts instead of reviewing other subjects
36. According to Grant et al (2009), they examined and noted the most common literature reviews that some of them are too popular and other are not so broad utilized.
37. Parasuraman et al. (1988) had discussed in their Paper about 22 item factor, SERVQUAL model, Potential applications in future of their model. The Authors explained about definitions, meaning and link Of quality, expectations and actual deliverance to Customers. Various related aspects like perceived Versus objective quality; quality as attitude; quality Versus satisfaction; and expectations compared to Perceptions were discussed.
38. As per Cronin, Jr. And Taylor (1994) consumer Satisfaction exerts a stronger influence on purchase/Loyalty than service quality. SERVQUAL serves partial Purpose in understanding service quality, but the Perception versus deliverance of service and cost Association also needs to be considered.
39. Voss et al. (1998) in their study showed that Price fluctuations is common among services Industries. When price and performance are Consistent, expectations have an assimilation effect on Performance and satisfaction judgments and when it Is inconsistent, expectations have no effect on Performance and satisfaction.

40. Sinha and Babu (1998) had discussed about Measuring the efficiency of the supply chain. Also, Companies use two performance measures that is Fraction of overall demand satisfied during the month And overall inventory system. This is how improving Demand fulfilment forces company management to Have more inward attention and stay focused on Customer.
41. As per Durvasula et al. (1999) logistics is Challenging and is complex also. Relationship Development, vendor development, service Improvisation are its key parts. SERVQUAL has Received most recognition amongst all proposed quality Measures. Relationship marketing has less power over Customers perception of performance quality service Influencing customer decisions. To succeed liners/ LSP's need not only offer quality services but also Need to quantify customers feedback towards the Offered services. In Business to Business (B2B) – Fulfilled commitments rather than over-promising acts Would give repeated business.
42. As per Dabolkar et al. (2000) understanding Whether service quality and customer satisfaction are Same or is customer satisfaction a result of service Quality is crucial to understand. Though Disconfirmation model had been studied, many Researchers had raised issues with it. Experience of Church Directory (before and after sales from sales Of National Photographic Company, with (Service Quality) SERVQUAL scale measure, was taken into Consideration. Customer perception plays a major role Over disconfirmation. For future, measured Disconfirmation was suggested rather than longitudinal Study.
43. As per Payne and Frow (2005) the role of Customer Relationship Management (CRM) is to Enhance customer and shareholder value. Authors had Identified five key cross-functional CRM processes A strategy development process, a value creation Process, a multichannel integration process, an Information management process, and a performance Assessment process.
44. Seth et al. (2006) advised that logistics impacts Not only own business, but consumers across the Globe with its quality. Despite its importance – service Quality in supply chain management (SCM) has been Less researched. Study on forward and reverse Logistics gaps had been done in this paper.
45. As per Davis and Mentzer (2006) there have been many studies on SCM and customer service but gap identification on perception of customer and LSP for offering service is less explored. One of the important function identified by authors was developing relation at organizational level with relevant department or manager.

46. Wieland and Wallenburg (2012) discussed that supply chain risk management (SCRM) helps in improving organizations performance. They found that agility and robustness have a positive impact on supply chains and performance dimensions and customer value.
47. As per Jang et al. (2013) world would not have globalised as we see now, if shipping didn't exist; as ocean freight constitutes 60% of global shipping. 23 studies since 1990 have been published discussing shipper, shipping line and perspectives of both for identifying service perception gap.
48. Morali and Searcy (2013) did a content analysis of 100 Canadian corporate sustainable development reports and in-depth interviews with 18 Canadian experts on SCM, based on primary and secondary research, it was understood from respondents how SSCM can be implemented in long run.
49. Setia et al. (2013) discussed importance of understanding customer requirements, aligning own company policies with customer demands and implementing a user friendly digital business strategy.
50. As per Haque and Islam (2013) collaboration and information sharing along with logistics design and IT infrastructure have significant impact on customer satisfaction.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

The basic framework or a plan for a study that gives guidance for the collection of data and analysis of data is known as research design. Descriptive research design is used in this survey. The research design includes two factors, one, surveys and other, fact-finding enquiries of different kinds. Description of a situation as it is at the present is the major purpose of descriptive research. The main source of data used in this survey is the members of the population and the effect of the variables on the population can be determined using this. The descriptive survey is designed in such way so as to obtain precise information concerning about the status of phenomenon.

3.2 SCOPE OF THE STUDY

This research is descriptive research conducted to analyse the effectiveness of elastic logistics in supply chain management in DIGITAL LOGISTICS. It provides a single point integrated services. Primary data was collected with the help of a structured questionnaire. The sample size of the survey is 50. Employees involved in elastic logistics process are the target population. This research will be useful for the benefit of academic community by enabling them to identify the gaps upon which they can build cases for further research. It is also useful for them to add to the growing level of knowledge in this field.

3.3 OBJECTIVE OF THE STUDY

- To study the effectiveness of elastic logistics in supply chain management in DIGITAL LOGISTICS
- To analyse the effectiveness of automation in elastic logistics
- To analyse the effectiveness of third party partnering in elastic logistics
- To analyse the effectiveness of efficiency and control factors of elastic logistics
- To identify how to enhance user experience through elastic logistics

3.4 NEED OF THE STUDY

A company may benefit from a flexible supply chain and an adaptive, intelligent infrastructure if its business requirements fluctuate. The company can better adjust productive resources and spending to meet market demands. Due to its enormous benefits, elastic logistics in India is a

vital and effective strategy to develop a competitive advantage in the market. This study is conducted to analyse the elastic logistics factors and benefits which helps in enhancing the customer experience in DIGITAL LOGISTICS. This study helps the organization in analyzing the effectiveness of elastic logistics process in the company.

3.5 SOURCE OF DATA

For a research design, data collection method stands as the backbone. Both the primary and secondary data was utilized as the source of data for analysis and report preparation.

Primary data

The primary data collection was done through getting the questionnaire filled by the employees engaged in elastic logistics process who were willing to spend some time for sharing their view. The data was also collected through a small interaction with these users.

Secondary data: secondary data is the data collected from the already available sources. These sources are analysed and interpreted to give final conclusion for the study. Internet, journals, magazines, websites and research papers were the main source of secondary data.

3.6 POPULATION

The population of the study is referred to as the unit of study; some inferences can be made by using all the characteristics which the population of the study refers while the carefully selected members of the target population is referred to as the sample population, they are the ones who serve as a representative section of that population. The target population in this study is the employees who are engaged in elastic logistics process.

3.7 SAMPLE SIZE

50 employees were surveyed during the study period.

3.8 PERIOD OF THE STUDY

The period of study is 4 weeks from 1st September, 2023 to 30st September, 2023

3.9 STRUCTURE OF QUESTIONNAIRE

In this study, the main instrument used for the purpose of data collection was a questionnaire. Close-ended questions were used in the questionnaire, for the convenience of the respondents a multi- option questions were given. In this study, a 5-point rating scale is used. The aim of using a close ended question in a questionnaire is to control responses that will give rise for

quantitative analysis. In the questionnaire, there are two main sections; first section consist of General information and the second section consist of factors of elastic logistics

3.10 ANALYTICAL TOOL

For the purpose of analysis of data, Simple percentage analysis and tabulation is used. In order to give pictorial representation of the analysis, Pie chart and bar diagram is used.

PERCENTAGE ANALYSIS:

A special kind of ratio, which makes comparison between two or more data and helps in establishing the relationship between them, this is termed as the Simple percentage analysis. To compare the relative terms a percentage analysis can be used. A relative term is the distribution of two or more series of data.

$$\text{Simple percentage} = \frac{\text{No. Of respondents} \times 100}{\text{Total no. of respondent}}$$

CHI-SQUARE TEST:

The chi-square test is used to estimate how likely the observations that are made would be, by considering the assumption of the null hypothesis as true. A hypothesis is a consideration that a given condition or statement might be true, which we can test afterwards. Chi-squared tests are usually created from a sum of squared falsities or errors over the sample variance.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 EMPLOYEE BY AGE

The following table shows the age group of the respondents.

Table 4.1: Age

S. No.	Age Group	No. of Respondents	% Of Respondents
1	Under 18	4	7
2	18 – 24	14	28
3	25 – 34	16	32
4	35 – 44	12	24
5	44 – 54	4	9
6	Above 54	0	0
	Total	50	100

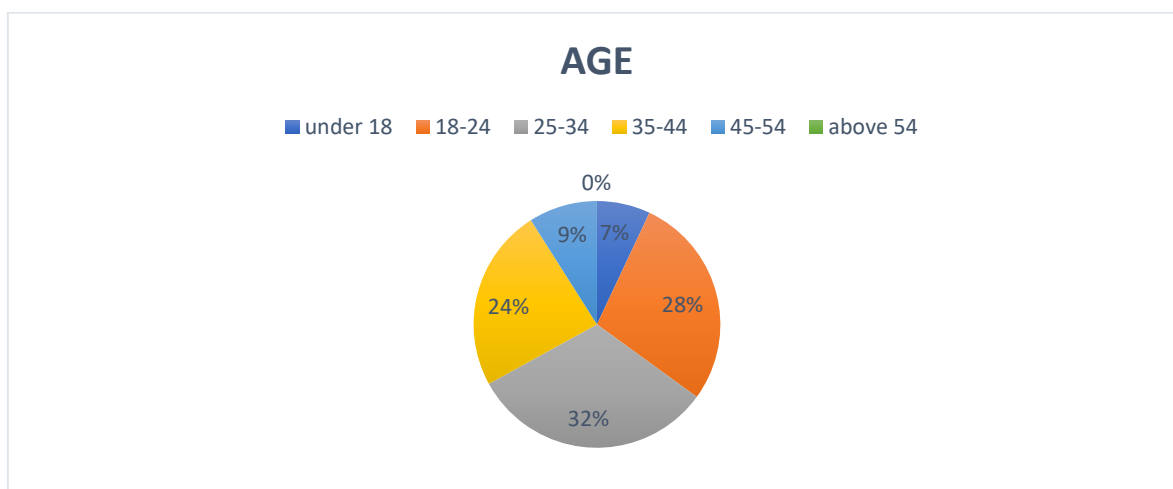


Chart 4.1: Age

Interpretation

The above table shows the age group of the respondents. About 7% of the respondents are below 18 years of age, about 28% of the respondent are between 18 to 24 years of age, 32% of the respondents are between 25 to 34 years of age, 24% of the respondents are between 35 to 44 years of age, about 9% of the respondent are between 45 to 54 years of age and about none of the respondent are above 54 years of age.

4.2 GENDER

The following table shows the gender of the respondents.

Table 4.2: Gender

S. No.	Gender	No. of Respondents	% Of Respondents
1	Male	44	87
2	Female	6	13
	Total	50	100

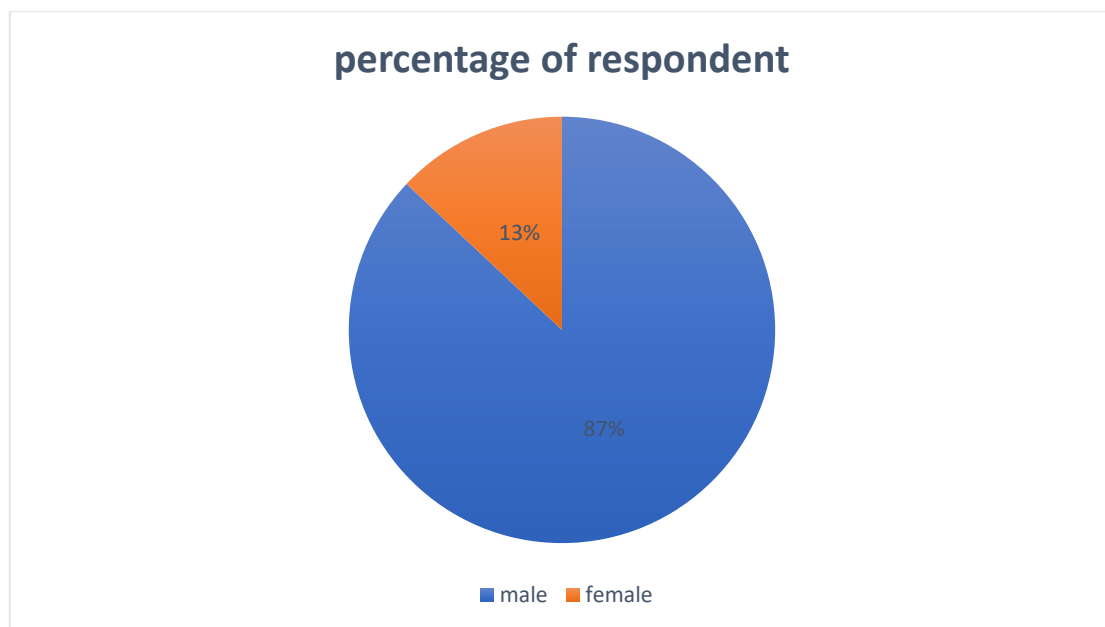


Chart 4.2: Gender

Interpretation

The above table shows the gender of the respondents. About 87% of the respondents are male and 13% of the respondents are female.

4.3 EDUCATIONAL QUALIFICATION

The following table shows the educational qualification details of the respondents.

Table 4.3: Educational qualification

S. No.	Educational Qualification	No. of Respondents	% Of Respondents
1	UG degree	15	30
2	PG degree	11	22
3	Higher than a PG degree	1	2
4	Certificate holder	4	7
5	Diploma	2	5
6	Schooling	8	16
7	Higher Secondary	9	18
	Total	50	100

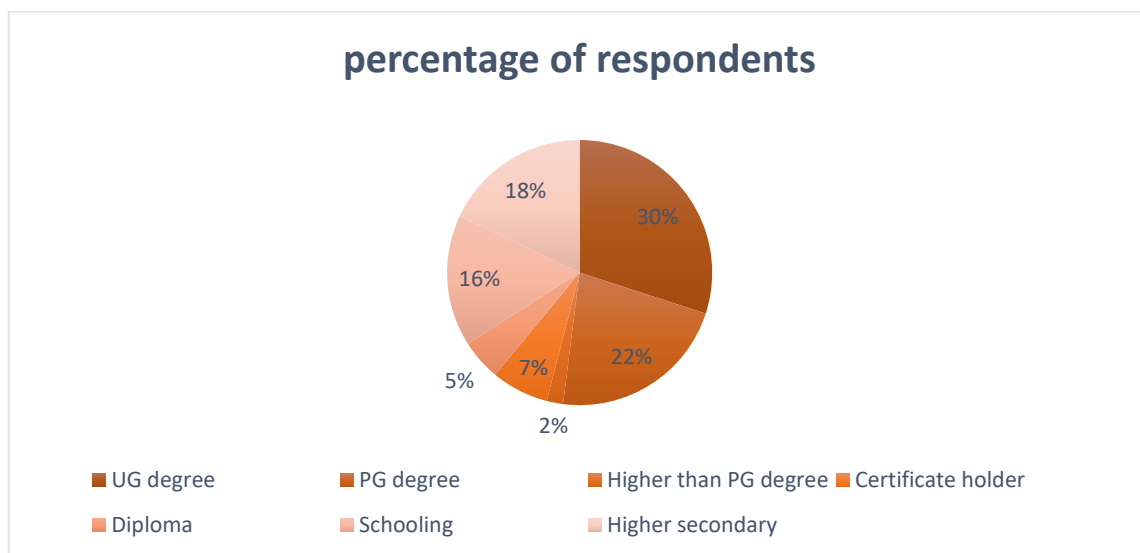


Chart 4.3: Educational qualification

Interpretation

The above table shows the education details of the respondents. About 30% of the respondent have completed UG degree, about 22% of the respondents have completed PG degree, about 2% of the respondent have completed higher degrees after their PG, about 7% of the respondents are certificate holders, about 5% of the respondent are diploma, about 16% of the respondents are schooling level and 18% of the respondents have completed their higher secondary.

4.4 EFFECTIVENESS OF ELASTIC LOGISTICS

The following table shows whether elastic logistics is effective in their organisation.

Table 4.4: Effectiveness of elastic logistics

S. No.	Effectiveness of elastic logistics	No. of Respondents	% Of Respondents
1	Yes	48	95
2	No	2	5
	Total	50	100

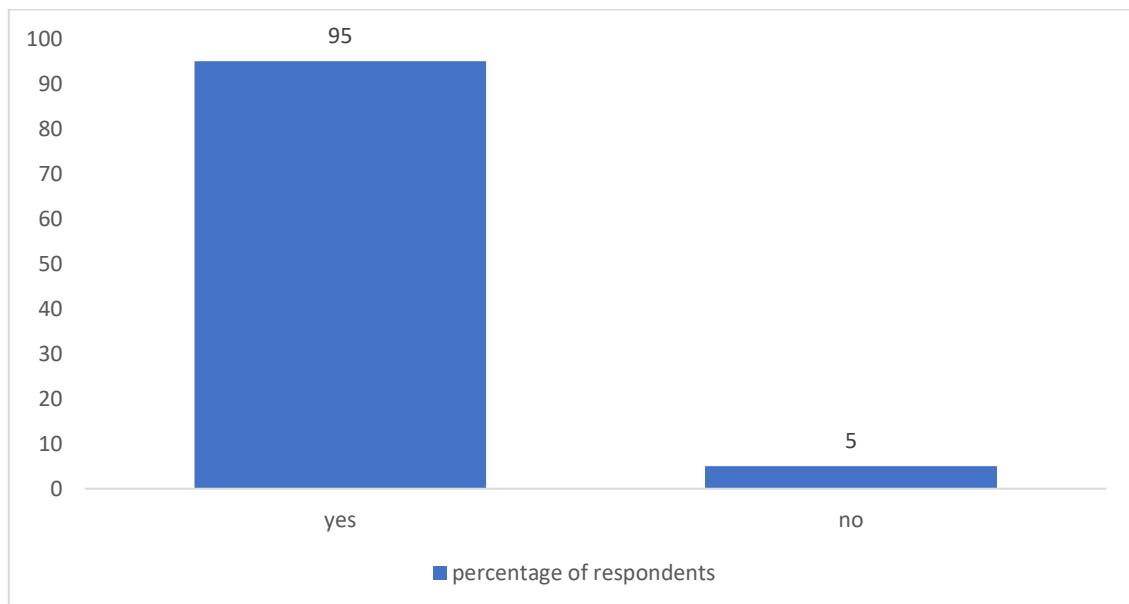


Chart 4.4: Effectiveness of elastic logistics

Interpretation

The above table shows whether elastic logistics is effective in their organisation. About 95% of the respondents agree that elastic logistics is effective in their organisation and about 5% of the respondents disagree that elastic logistics is effective in their organisation.

4.5 SUITABILITY OF TYPE OF ELASTIC LOGISTICS

The following table shows the respondents view regarding what type of elastic logistics will be suitable for their organisation.

Table 4.5: Suitability of type of elastic logistics

S. No.	Suitability of type of elastic logistics	No. of Respondents	% Of Respondents
1	Cloud based technology	14	27
2	Micro fulfilment points	18	36
3	Omni channel fulfilment strategy	11	22
4	Automation	7	15
	Total	50	100

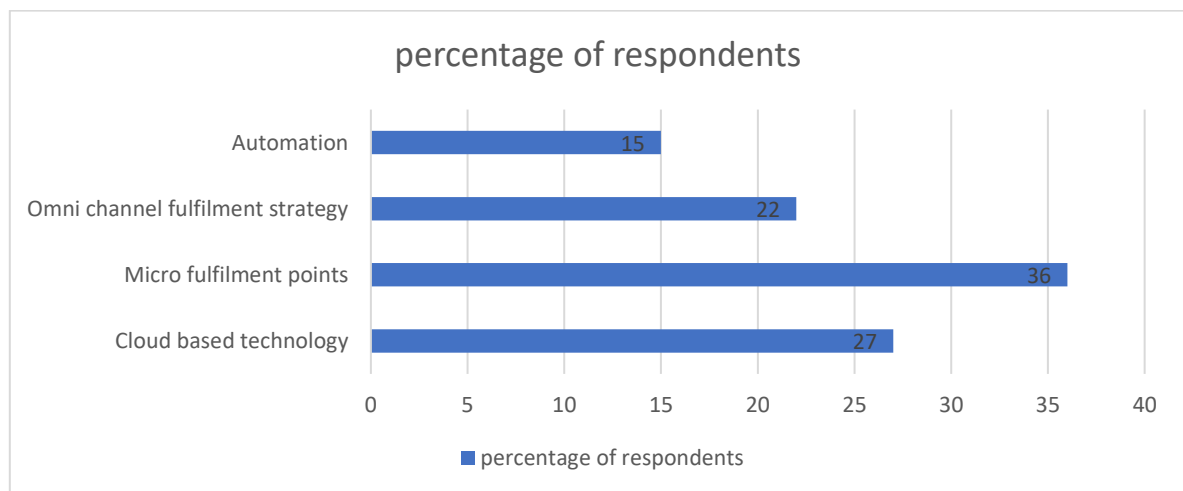


Chart 4.5: Suitability of type of elastic logistics

Interpretation

The above table shows the respondents view regarding what type of elastic logistics will be suitable for their organisation. About 27% of the respondents have stated that cloud-based technology in elastic logistics will be suitable for the company, about 36% of the respondents have stated that micro fulfilment points in elastic logistics will be suitable for the company, about 22% of the respondents have stated that Omni channel fulfilment strategy in elastic logistics will be suitable for the company and about 15% of the respondents have stated that automation in elastic logistics will be suitable for the company.

4.6 IMPLEMENTATION OF ELASTIC LOGISTICS HELPED ORGANISATION IN SCALING WAREHOUSE OPERATIONS AND RESOURCES

The following table shows whether the implementation of elastic logistics helped the organisation in scaling warehouse operations and resources.

Table 4.6: Implementation of elastic logistics helped organisation in scaling warehouse operations and resources

S. No.	Implementation of elastic logistics helped organisation in scaling warehouse operations and resources	No. of Respondents	% Of Respondents
1	Yes	43	86
2	No	7	14
	Total	50	100

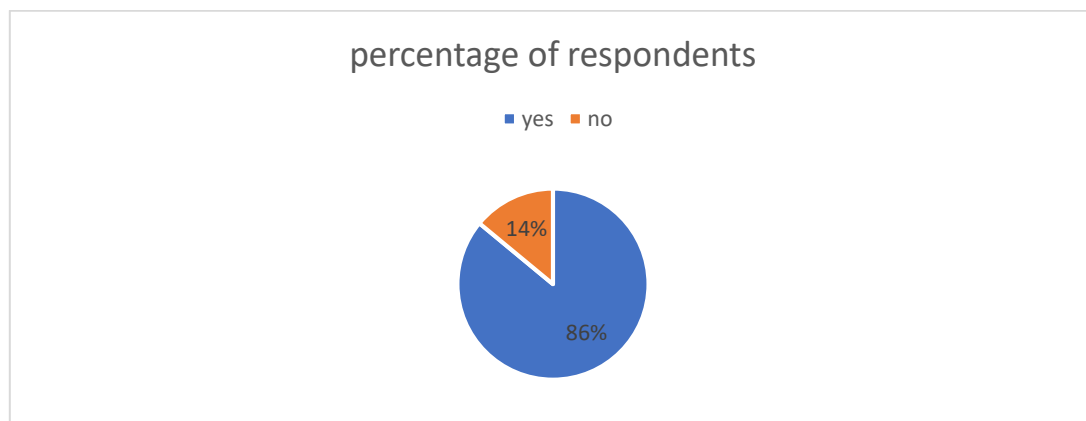


Chart 4.6: Implementation of elastic logistics helped organisation in scaling warehouse operations and resources

Interpretation

The above table shows the respondent's view regarding whether the implementation of elastic logistics helped the organisation in scaling warehouse operations and resources. About 86% of the respondents have stated that implementation of elastic logistics helped their organisation in scaling warehouse operations and resources and about 14% of the respondents have stated that implementation of elastic logistics have not helped their organisation in scaling warehouse operations and resources.

4.7 EMPLOYING A WAREHOUSE MANAGEMENT SYSTEM FACILITATES THE MANAGEMENT OF ELASTIC LOGISTICS

The following table shows whether employing a warehouse management system in the company helps in facilitating the management of elastic logistics.

Table 4.7: Employing a warehouse management system facilitates the management of elastic logistics

S. No.	Employing a warehouse management system facilitates the management of elastic logistics	No. of Respondents	% Of Respondents
1	Yes	50	100
2	No	0	0
	Total	50	100

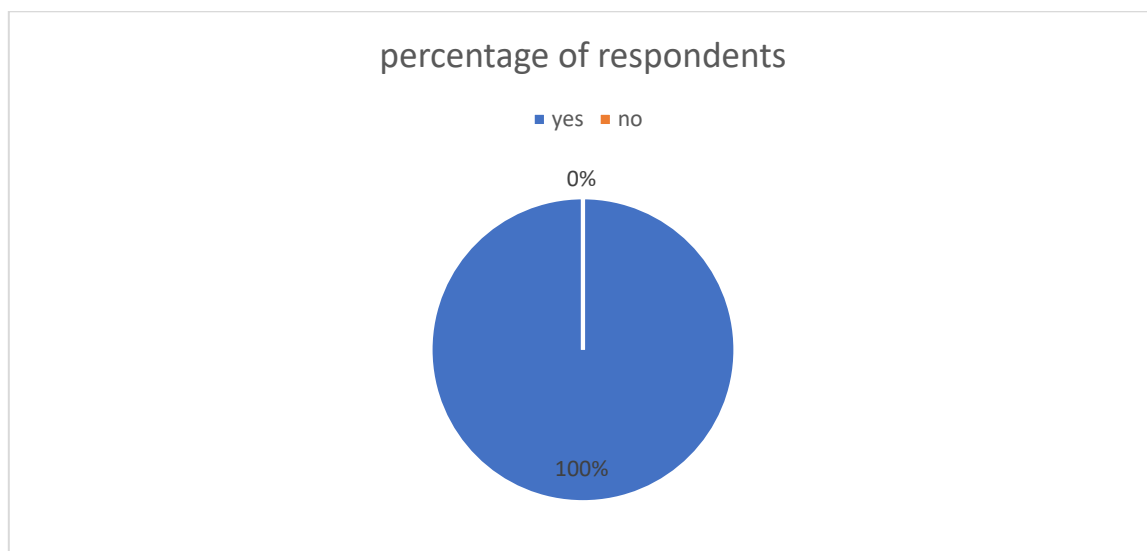


Chart 4.7: Employing a warehouse management system facilitates the management of elastic logistics

Interpretation

The above table shows the respondent's view regarding whether employing a warehouse management system in the company helps in facilitating the management of elastic logistics. About 100% of the respondents have stated that employing a warehouse management system in the company helps in facilitating the management of elastic logistics.

4.8 HELPS IN REDUCING HUMAN ERROR

The following table shows whether elastic logistics helps in reducing human error.

Table 4.8: Helps in reducing human error

S. No.	Helps in reducing human error	No. of Respondents	% Of Respondents
1	Strongly Agree	24	48
2	Agree	15	31
3	Neutral	11	21
4	Disagree	0	0
5	Strongly Disagree	0	0
	Total	50	100

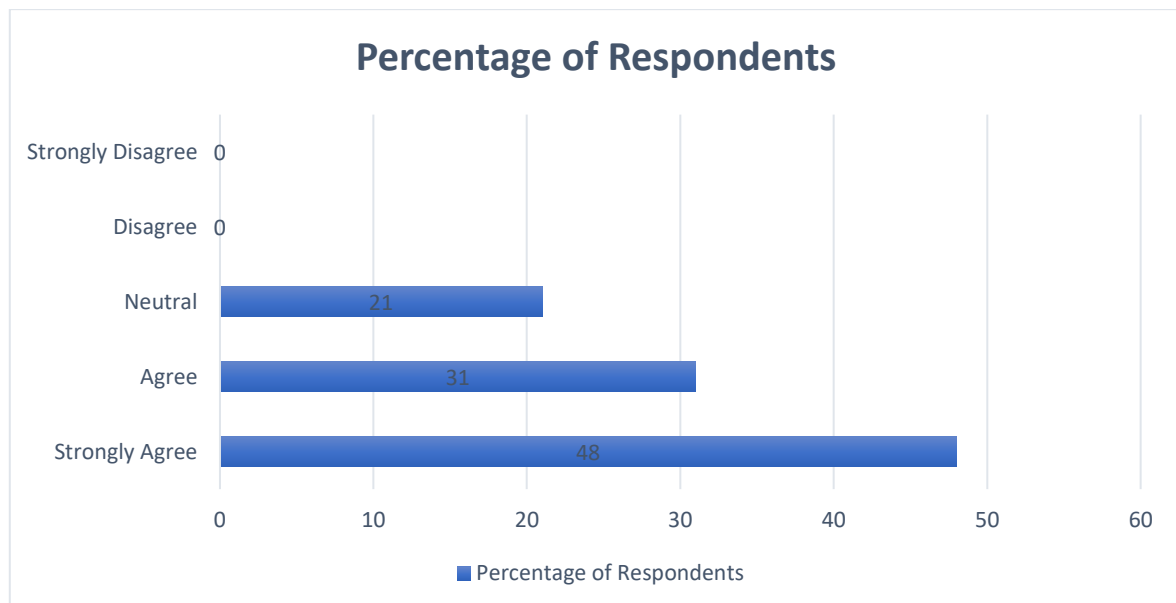


Chart 4.8: Helps in reducing human error

Interpretation

The above table shows the respondent's view regarding whether elastic logistics helps in reducing human error. About 48% of the respondents strongly agree that elastic logistics helps in reducing human error, about 31% of the respondents agree that elastic logistics helps in reducing human error, about 21% of the respondents are in neutral that elastic logistics helps in reducing human error and none of the respondents strongly disagree and disagree that elastic logistics helps in reducing human error.

4.9 REDUCES SCALING ABILITIES

The following table shows whether elastic logistics helps in reducing scaling abilities in the organisation.

Table 4.9: Reduces scaling abilities

S. No.	Reduces scaling abilities	No. of Respondents	% Of Respondents
1	Strongly Agree	0	0
2	Agree	8	15
3	Neutral	7	14
4	Disagree	18	37
5	Strongly Disagree	17	34
	Total	50	100

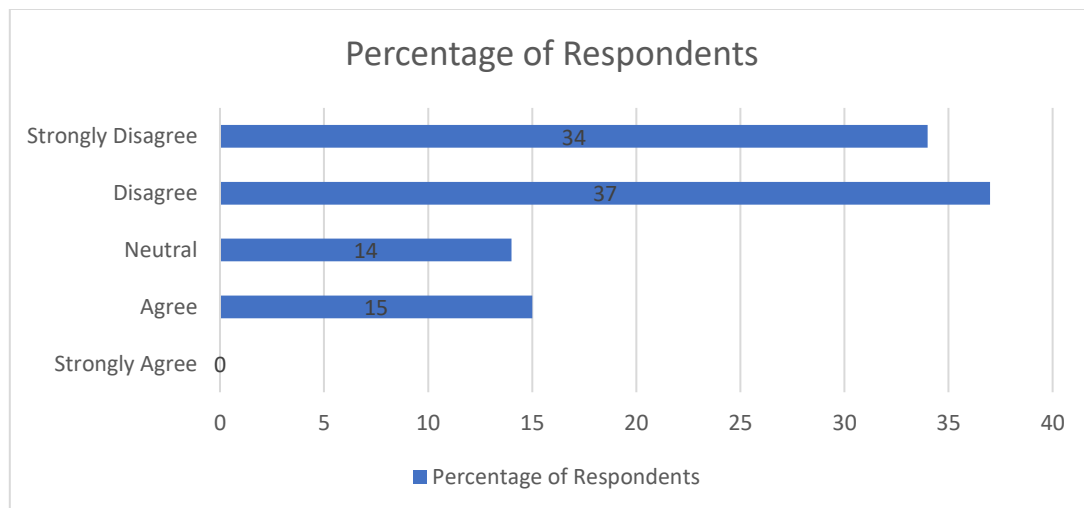


Chart 4.9: Reduces scaling abilities

Interpretation

The above table shows that none of the respondents strongly agree that elastic logistics helps in reducing scaling abilities in the organisation, about 15% of the respondents agree that elastic logistics helps in reducing scaling abilities in the organisation, about 14% of the respondents are in neutral that elastic logistics helps in reducing scaling abilities in the organisation, about 37% of the respondents disagree that elastic logistics helps in reducing scaling abilities in the organisation and 34% of the respondents strongly disagree that elastic logistics helps in reducing scaling abilities in the organisation.

4.10 HELPS IN ROUTE OPTIMISATION

The following table shows whether elastic logistics helps in route optimisation.

NoTable 4.10: Helps in route optimisation

S. No.	Helps in route optimisation	No. of Respondents	% Of Respondents
1	Strongly Agree	21	42
2	Agree	16	32
3	Neutral	9	18
4	Disagree	3	7
5	Strongly Disagree	1	1
	Total	50	100

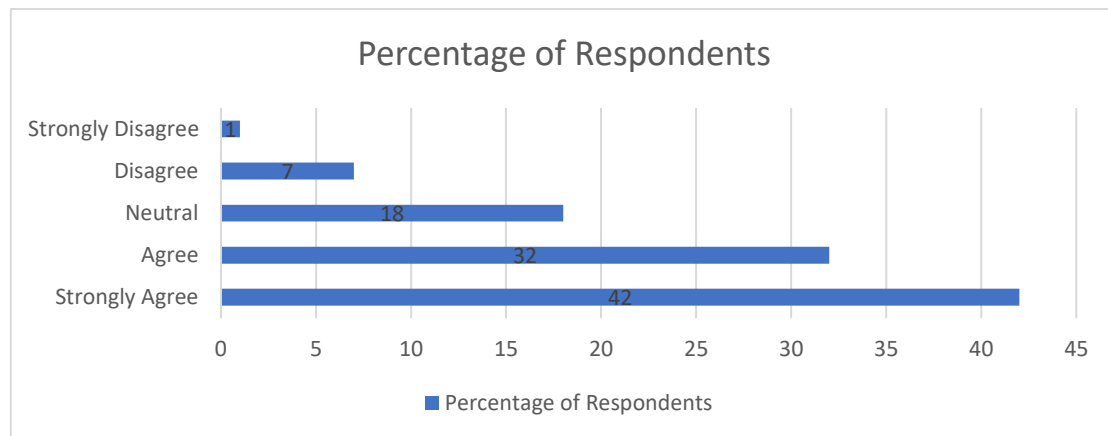


Chart 4.10: Helps in route optimisation

Interpretation

The above table shows the respondent's view regarding whether elastic logistics helps in route optimisation. About 42% of the respondents strongly agree that elastic logistics helps in route optimisation, about 32% of the respondents agree that elastic logistics helps in route optimisation, about 18% of the respondents are in neutral that elastic logistics helps in route optimisation, about 7% of the respondents disagree that elastic logistics helps in route optimisation and about 1% of the respondents strongly disagree that elastic logistics helps in route optimisation.

4.11 REDUCES RISKS OF INVESTING

The following table shows whether elastic logistics process reduces the risk of investment to the organization.

Table 4.11: Reduces risk of investing

S. No.	Reduces risk of investing	No. of Respondents	% Of Respondents
1	Strongly Agree	19	38
2	Agree	20	40
3	Neutral	6	12
4	Disagree	5	10
5	Strongly Disagree	0	0
	Total	50	100

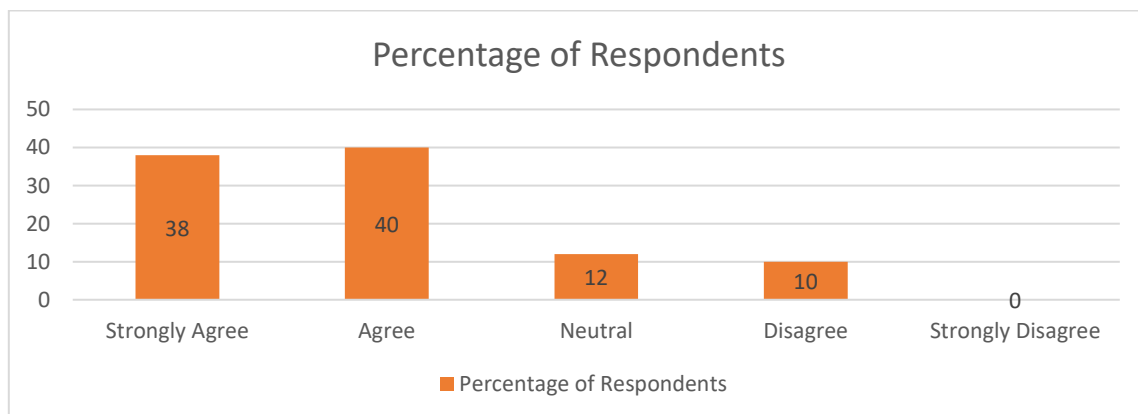


Chart 4.11: Reduces risk of investing

Interpretation

The above table shows that about 38% of the respondents strongly agree that elastic logistics process reduces the risk of investment to the organization, about 40% of the respondents agree, about 12% of the respondents are in neutral, about 10% of the respondents disagree that elastic logistics process reduces the risk of investment to the organization and none of the respondent has a strong disagreement that elastic logistics process reduces the risk of investment to the organization.

4.12 PROVIDES ROBUST SCALING CAPABILITIES

The following table shows whether elastic logistics provides the organization with robust scaling capabilities.

Table 4.12: Provides robust scaling capabilities

S. No.	Provides robust scaling capabilities	No. of Respondents	% Of Respondents
1	Strongly Agree	23	45
2	Agree	19	38
3	Neutral	7	15
4	Disagree	0	0
5	Strongly Disagree	1	2
	Total	50	100

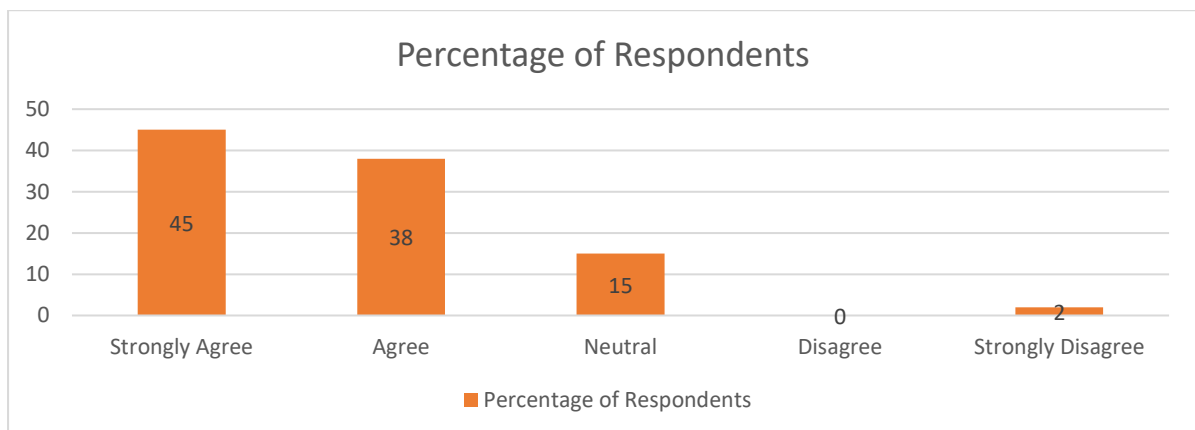


Chart 4.12: Provides robust scaling capabilities

Interpretation

The above table shows that about 45% of the respondents strongly agree that elastic logistics provides the organization with robust scaling capabilities, about 38% of the respondents agree, about 15% of the respondents are in neutral, and none of the respondents disagree that elastic logistics provides the organization with robust scaling capabilities. About 2% of the respondents strongly disagree that elastic logistics provides the organization with robust scaling capabilities.

4.13 HELPS IN REAL TIME TRACKING TO CUSTOMERS

The following table shows whether elastic logistics provides customers with real-time tracking facilities.

Table 4.13: Helps in real-time tracking to customers

S. No.	Helps in real-time tracking to customers	No. of Respondents	% Of Respondents
1	Strongly Agree	6	13
2	Agree	33	66
3	Neutral	9	17
4	Disagree	2	4
5	Strongly Disagree	0	0
	Total	50	100

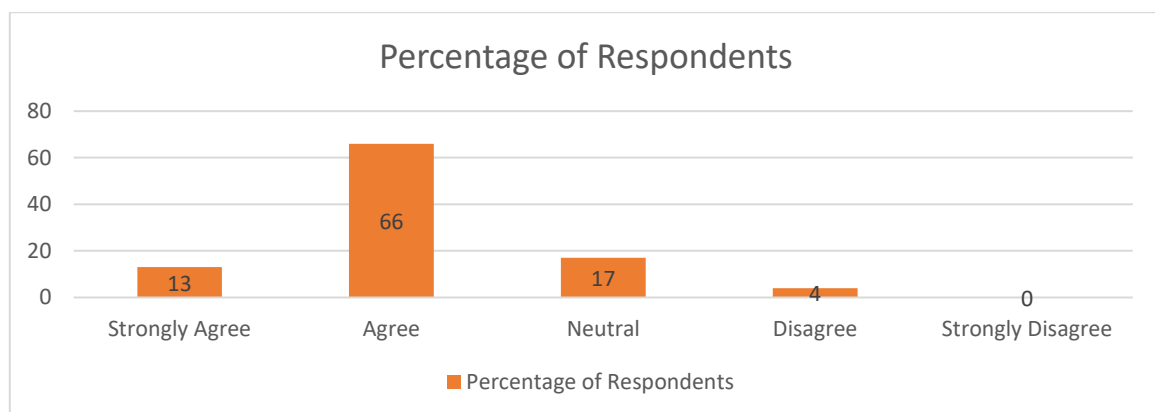


Chart 4.13: Helps in real-time tracking to customers

Interpretation

The above table shows that about 13% of the respondents strongly agree that elastic logistics provides customers with real-time tracking facilities, About 66% of the respondents agree, about 17% of the respondents are in neutral, about 4% of the respondents has a disagreement and none of the respondents has a strong disagreement to the statement that elastic logistics provides customers with real-time tracking facilities.

4.14 USAGE OF A COMMON DASHBOARD

The following table shows whether usage of a common dashboard act as a valuable tool in elastic logistics.

Table 4.14: Usage of a common dashboard

S. No.	Usage of a common dashboard	No. of Respondents	% Of Respondents
1	Strongly Agree	17	34
2	Agree	20	39
3	Neutral	6	13
4	Disagree	5	9
5	Strongly Disagree	2	5
	Total	50	100

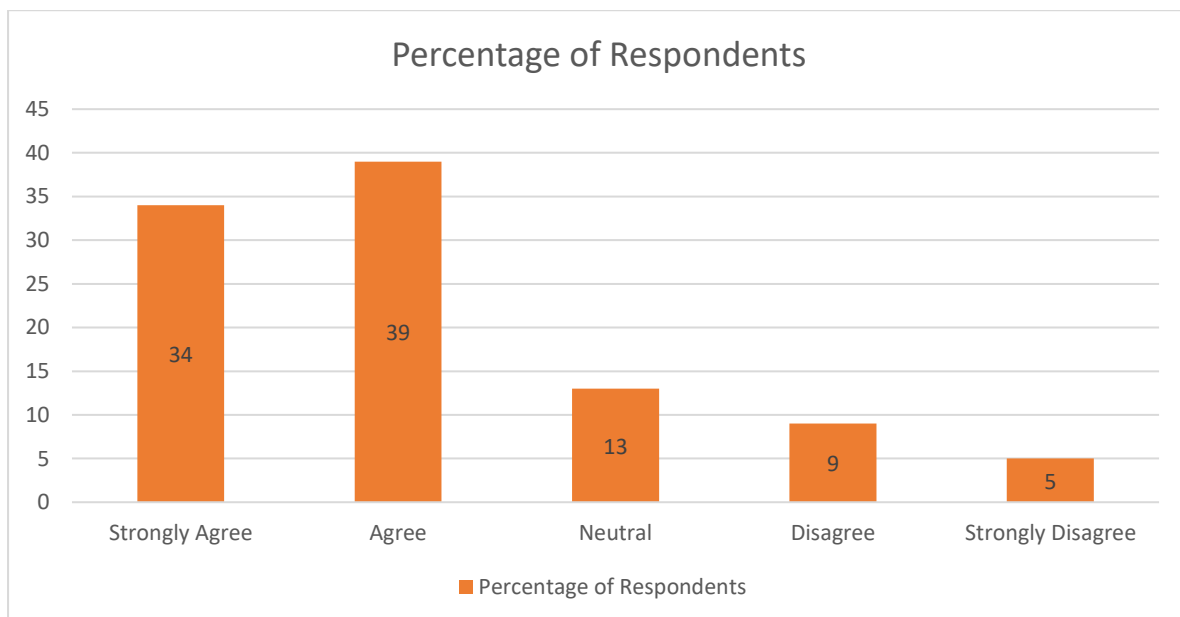


Chart 4.14: Usage of a common dashboard

Interpretation

The above table shows the respondent's view regarding whether usage of a common dashboard act as a valuable tool in elastic logistics. About 34% of the respondents strongly agree that usage of a common dashboard act as a valuable tool in elastic logistics, about 39% of the respondents agree that usage of a common dashboard act as a valuable tool in elastic logistics, about 13% of the respondents are in neutral that usage of a common dashboard act as a valuable tool in elastic logistics, about 9% of the respondent disagree that usage of a common dashboard act as a valuable tool in elastic logistics and about 5% of the respondent strongly disagree that usage of a common dashboard act as a valuable tool in elastic logistics.

4.15 REDUCTION IN COSTS

The following table shows whether implementing elastic logistics process in the firm results in reduction of cost to the organization.

Table 4.15: Reduction in costs

S. No.	Reduction in costs	No. of Respondents	% Of Respondents
1	Strongly Agree	9	18
2	Agree	10	20
3	Neutral	13	26
4	Disagree	12	23
5	Strongly Disagree	6	13
	Total	50	100

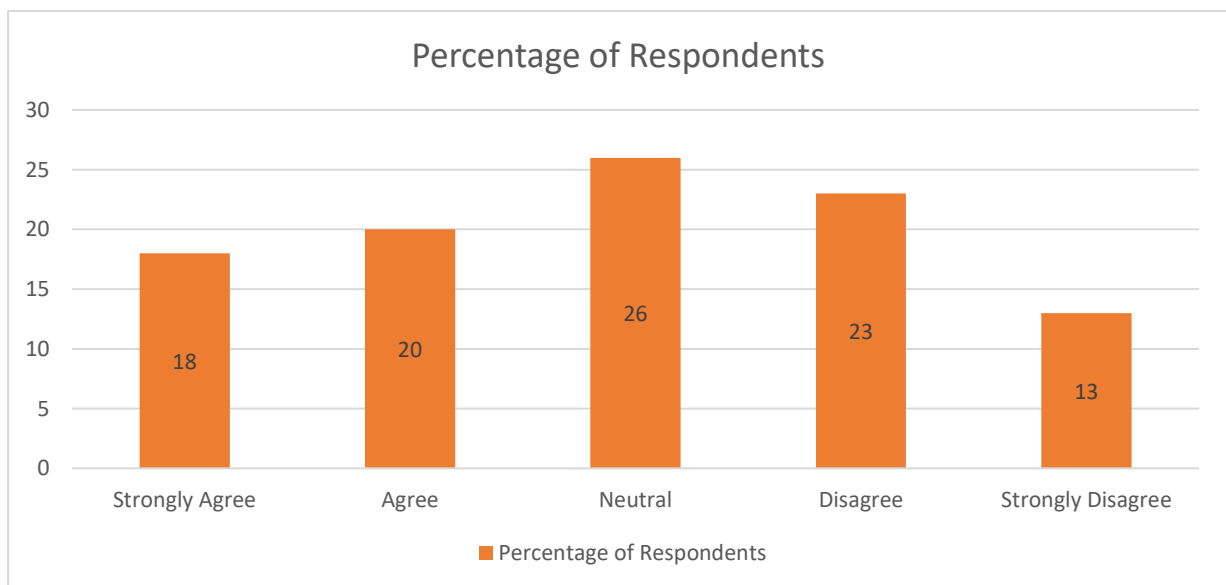


Chart 4.15: Reduction in costs

Interpretation

The above table shows the respondent's view regarding whether implementing elastic logistics process in the firm results in reduction of cost to the organization. About 18% of the respondents strongly agree that implementing elastic logistics process in the firm results in reduction of cost to the organization, about 20% of the respondents agree that implementing elastic logistics process in the firm results in reduction of cost to the organization, about 26% of the respondents are in neutral that implementing elastic logistics process in the firm results in reduction of cost to the organization, about 23% of the respondents disagree that implementing elastic logistics process in the firm results in reduction of cost to the organization and 13% of the respondents strongly disagree that implementing elastic logistics process in the firm results in reduction of cost to the organization.

4.16 HELPS IN RESILIENCE AND COLLABORATION

The following table shows whether elastic logistics helps in resilience and collaboration in the firm.

Table 4.16: Helps in resilience and collaboration

S. No.	Helps in resilience and collaboration	No. of Respondents	% Of Respondents
1	Strongly Agree	11	21
2	Agree	7	14
3	Neutral	9	18
4	Disagree	12	25
5	Strongly Disagree	11	22
	Total	50	100

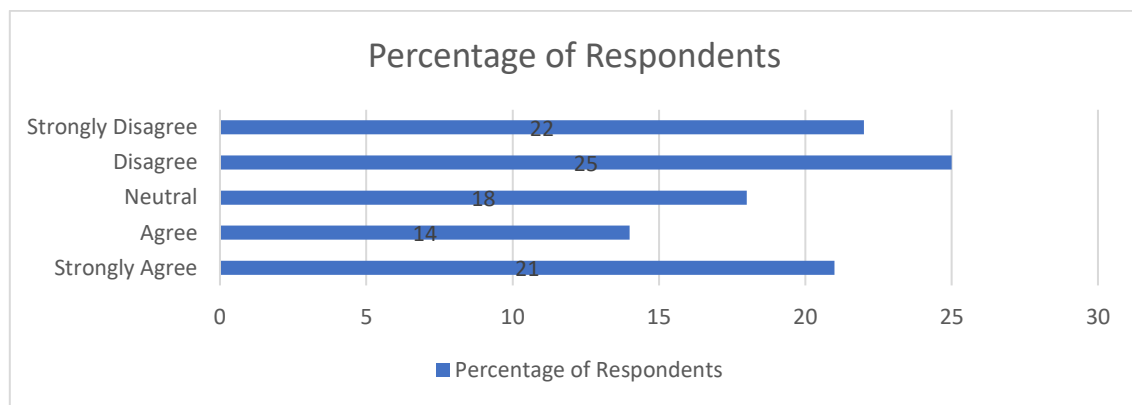


Chart 4.16: Helps in resilience and collaboration

Interpretation

The above table shows the respondent's view regarding whether elastic logistics helps in resilience and collaboration in the firm. About 21% of the respondents strongly agree that elastic logistics helps in resilience and collaboration in the firm, about 14% of the respondents agree that elastic logistics helps in resilience and collaboration in the firm, about 18% of the respondents are in neutral that elastic logistics helps in resilience and collaboration in the firm, about 25% of the respondents disagree that elastic logistics helps in resilience and collaboration in the firm and 22% of the respondents strongly disagree that elastic logistics helps in resilience and collaboration in the firm.

4.17 INCREASES CUSTOMER SATISFACTION AND DELIGHT

The following table shows whether use of elastic logistics have resulted in increasing customer satisfaction and delight.

Table 4.17: Increases customer satisfaction and delight

S. No.	Increases customer satisfaction and delight	No. of Respondents	% Of Respondents
1	Strongly Agree	11	21
2	Agree	12	24
3	Neutral	12	25
4	Disagree	9	18
5	Strongly Disagree	6	12
	Total	50	100

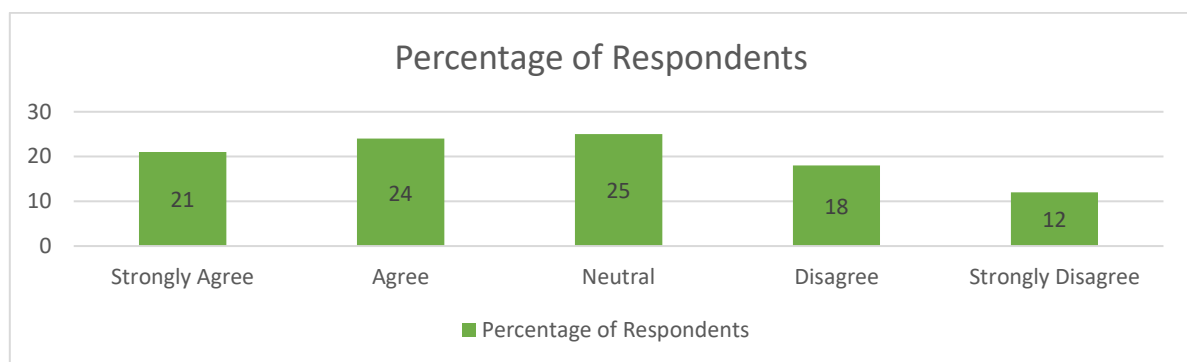


Chart 4.17: Increases customer satisfaction and delight

Interpretation

The above table shows the respondent's view regarding whether use of elastic logistics have resulted in increasing customer satisfaction and delight. About 21% of the respondents strongly agree that use of elastic logistics have resulted in increasing customer satisfaction and delight, about 24% of the respondents agree that use of elastic logistics have resulted in increasing customer satisfaction and delight, about 25% of the respondents are in neutral that use of elastic logistics have resulted in increasing customer satisfaction and delight, about 18% of the respondents disagree that use of elastic logistics have resulted in increasing customer satisfaction and delight and about 12% of the respondents strongly disagree that use of elastic logistics have resulted in increasing customer satisfaction and delight.

4.18 TIMELY DELIVERY

The following table shows whether elastic logistics helps in timely delivery to the customers.

Table 4.18: Timely delivery

S. No.	Timely delivery	No. of Respondents	% Of Respondents
1	Strongly Agree	11	21
2	Agree	22	44
3	Neutral	11	22
4	Disagree	4	8
5	Strongly Disagree	2	5
	Total	50	100

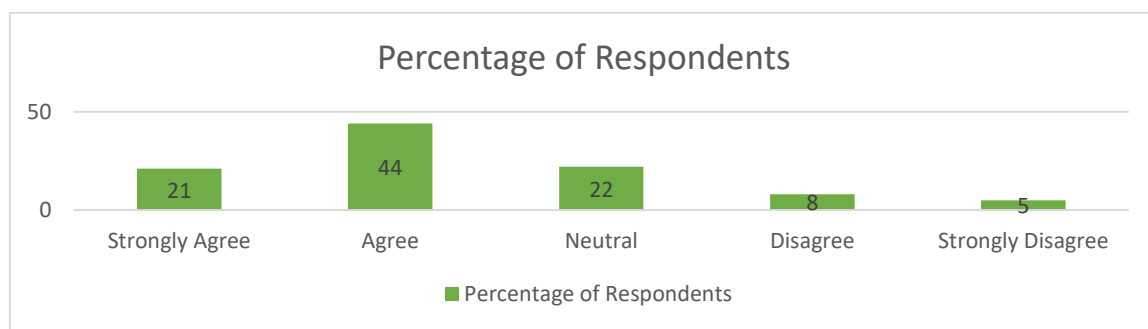


Chart 4.18: Timely delivery

Interpretation

The above table shows the respondent's view regarding whether elastic logistics helps in timely delivery to the customers. About 21% of the respondents strongly agree that elastic logistics helps in timely delivery to the customers, about 44% of the respondents agree that elastic logistics helps in timely delivery to the customers, about 22% of the respondents are in neutral that elastic logistics helps in timely delivery to the customers, about 8% of the respondents disagree that elastic logistics helps in timely delivery to the customers and about 5% of the respondents strongly disagree that elastic logistics helps in timely delivery to the customers.

4.19 HELPS THE COMPANIES TO RETAIN CUSTOMERS

The following table shows whether elastic logistics implementation have helped the company to retain customers.

Table 4.19: Helps the companies to retain customers

S. No.	Helps the companies to retain customers	No. of Respondents	% Of Respondents
1	Strongly Agree	5	10
2	Agree	6	12
3	Neutral	9	19
4	Disagree	19	37
5	Strongly Disagree	11	22
	Total	50	100

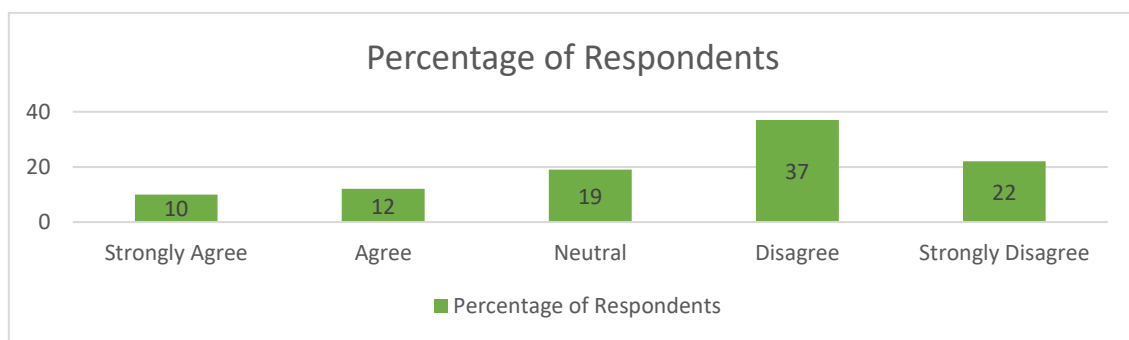


Chart 4.19: Helps the companies to retain customers

Interpretation

The above table shows the respondent's view regarding whether elastic logistics implementation have helped the company to retain customers. About 10% of the respondents strongly agree that elastic logistics implementation have helped the company to retain customers, about 12% of the respondents agree that elastic logistics implementation have helped the company to retain customers, about 19% of the respondents are in neutral that elastic logistics implementation have helped the company to retain customers, about 37% of the respondents disagree that elastic logistics implementation have helped the company to retain customers and about 22% of the respondents strongly disagree that elastic logistics implementation have helped the company to retain customers.

4.20 BUSINESSES BENEFIT DUE TO REDUCED RISKS AND INCREASED RESILIENCE

The following table shows whether use of elastic logistics have benefitted business by the way of reduced risk and increased resilience.

Table 4.20: Businesses benefit due to reduced risks and increased resilience

S. No.	Businesses benefit due to reduced risks and increased resilience	No. of Respondents	% Of Respondents
1	Strongly Agree	8	17
2	Agree	20	40
3	Neutral	14	27
4	Disagree	7	15
5	Strongly Disagree	1	1
	Total	50	100

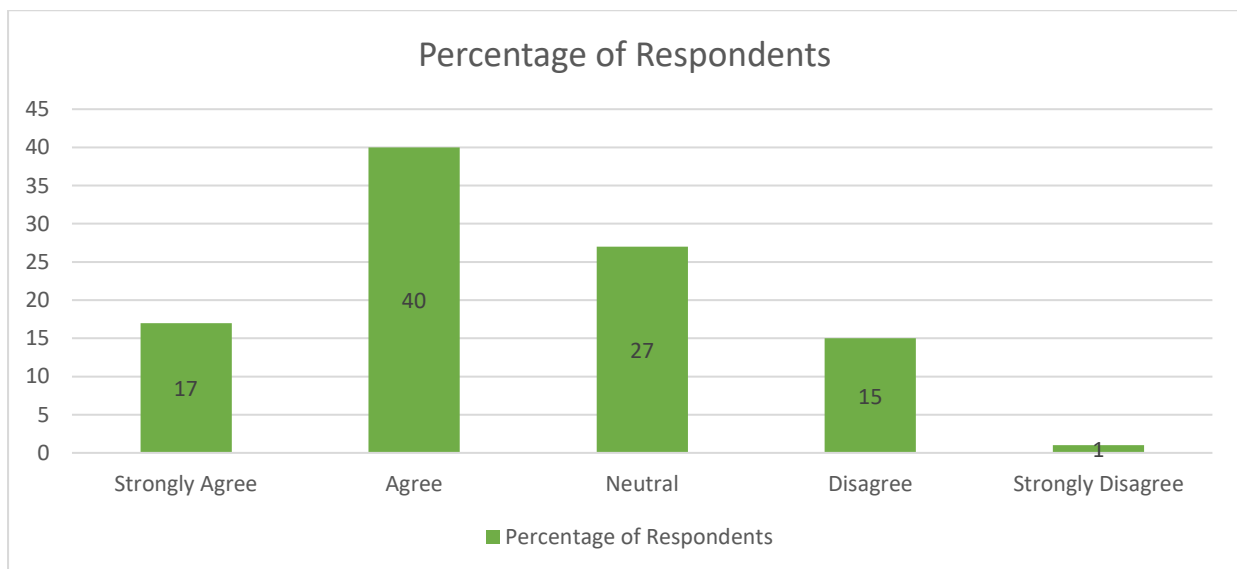


Chart 4.20: Businesses benefit due to reduced risks and increased resilience

Interpretation

The above table shows the respondent's view regarding whether use of elastic logistics have benefitted business by the way of reduced risk and increased resilience. About 17% of the respondents strongly agree that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience, about 40% of the respondents agree that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience, about 27% of the respondents are in neutral that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience, about 15% of the respondents disagree that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience and about 1% of the respondents strongly disagree that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience.

4.21 EFFICIENT UTILISATION OF RESOURCES

The following table shows whether use of elastic logistics helps in efficient utilisation of resources in the organisation.

Table 4.21: Efficient utilisation of resources

S. No.	Efficient utilisation of resources	No. of Respondents	% Of Respondents
1	Strongly Agree	16	31
2	Agree	19	39
3	Neutral	11	22
4	Disagree	4	8
5	Strongly Disagree	0	0
	Total	50	100

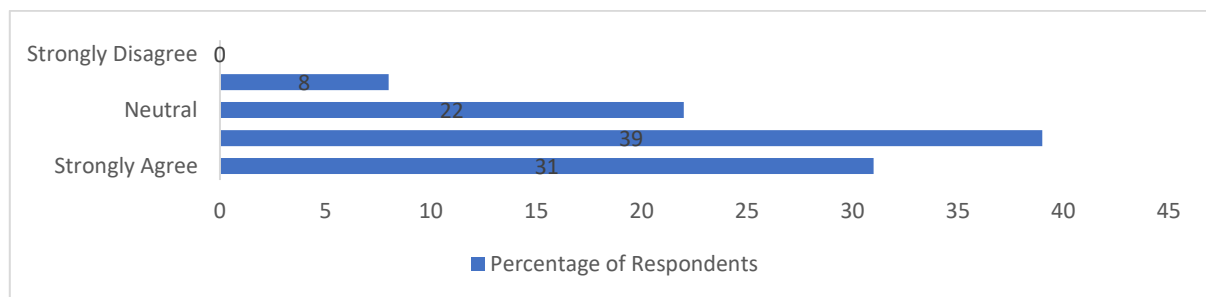


Chart 4.21: Efficient utilisation of resources

Interpretation

The above table shows the respondent's view regarding whether use of elastic logistics helps in efficient utilisation of resources in the organisation. About 31% of the respondents strongly agree that use of elastic logistics helps in efficient utilisation of resources in the organisation, about 39% of the respondents agree that use of elastic logistics helps in efficient utilisation of resources in the organisation, about 22% of the respondents are in neutral that use of elastic logistics helps in efficient utilisation of resources in the organisation, about 8% of the respondents disagree that use of elastic logistics helps in efficient utilisation of resources in the organisation and about none of the respondents strongly disagree that use of elastic logistics helps in efficient utilisation of resources in the organisation.

4.22 HELPS IN GAINING COMPETITIVE ADVANTAGE

The following table shows whether implementation of elastic logistics have resulted in gaining competitive advantage for the company.

Table 4.22: Helps in gaining competitive advantage

S. No.	Helps in gaining competitive advantage	No. of Respondents	% Of Respondents
1	Strongly Agree	18	35
2	Agree	21	42
3	Neutral	9	17
4	Disagree	1	3
5	Strongly Disagree	1	3
	Total	50	100

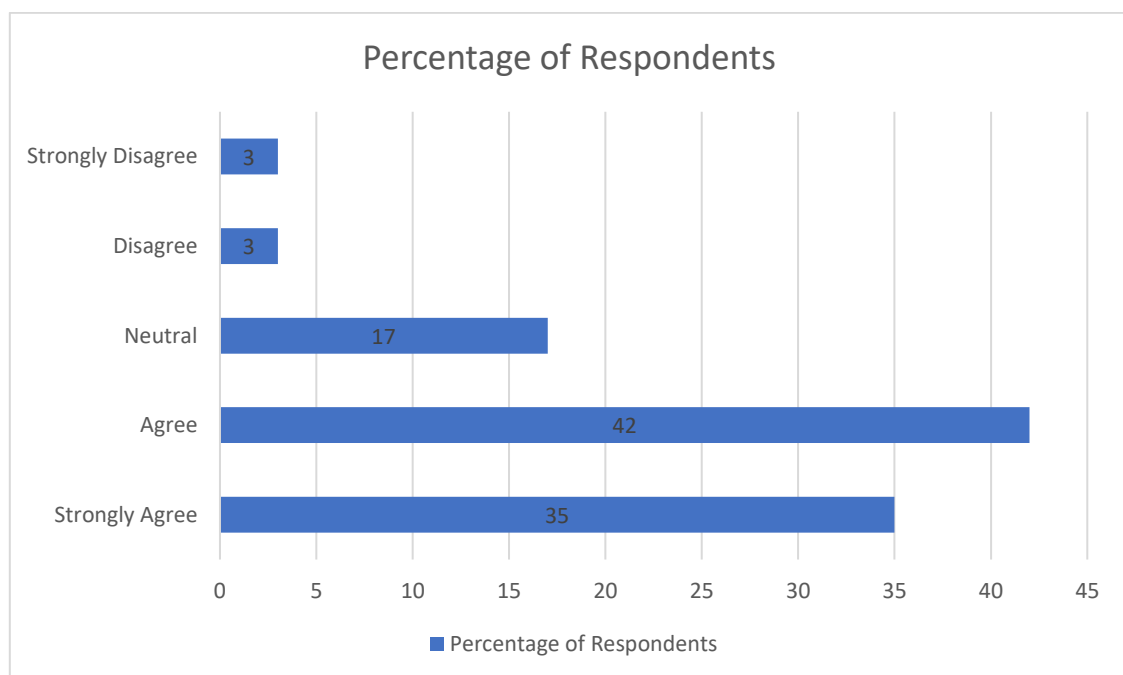


Chart 4.22: Helps in gaining competitive advantage

Interpretation

The above table shows the respondent's view regarding whether implementation of elastic logistics have resulted in gaining competitive advantage for the company. About 35% of the respondents strongly agree that implementation of elastic logistics have resulted in gaining competitive advantage for the company, about 42% of the respondents agree that implementation of elastic logistics have resulted in gaining competitive advantage for the company, about 17% of the respondents are in neutral that implementation of elastic logistics have resulted in gaining competitive advantage for the company, About 3% of the respondents disagree that implementation of elastic logistics have resulted in gaining competitive advantage for the company and about 3% of the respondents strongly disagree that implementation of elastic logistics have resulted in gaining competitive advantage for the company.

CHI SQUARE ANALYSIS

4.23 RELATIONSHIP BETWEEN AGE OF RESPONDENTS AND THEIR OPINION THAT ELASTIC LOGISTICS HELPED ORGANISATION IN SCALING WAREHOUSE OPERATIONS AND RESOURCES

The relationship between the age of the respondents and their opinion that elastic logistics helped organisation in scaling warehouse operations and resources has been analysed using chi-square test.

Age

S. No.	Age Group	No. of Respondents	% Of Respondents
1	Under 18	4	7
2	18 – 24	14	28
3	25 – 34	16	32
4	35 – 44	12	24
5	44 – 54	4	9
6	Above 54	0	0
	Total	50	100

Implementation of elastic logistics helped organisation in scaling warehouse operations and resources

S. No.	Implementation of elastic logistics helped organisation in scaling warehouse operations and resources	No. of Respondents	% Of Respondents
1	Yes	43	86
2	No	7	14
	Total	50	100

Null Hypothesis: There is no relationship between the age of the respondents and their opinion that elastic logistics helped organisation in scaling warehouse operations and resources

Alternative Hypothesis: There is relationship between the age of the respondents and their opinion that elastic logistics helped organisation in scaling warehouse operations and resources.

O – Observed Frequency

E – Expected Frequency

Expected frequency of any cell = $(\text{Row total of any cell}) * (\text{Column total of any cell})$

Overall Total

Table No: 4.23 Chi Square Analysis

Implementation of elastic logistics helped organisation in scaling warehouse operations and resources Age	Yes	No	Row Total
Under 18	4	0	4
18 – 24	13	1	14
25 – 34	13	3	16
35 – 44	10	2	12
44 – 54	3	1	4
Above 54	0	0	0
Column Total	43	7	50

O	E	O-E	(O-E) ²	(O-E) ² / E
4	3.44	0.56	0.31	0.09
0	0.56	-0.56	0.31	0.56
13	12.04	0.96	0.92	0.07
1	1.96	-0.96	0.92	0.47
13	13.76	-0.76	0.57	0.04
3	2.24	0.76	0.57	0.25
10	10.32	-0.32	0.10	0.009
2	1.68	0.32	0.10	0.06

3	3.44	-0.44	0.19	0.05
1	0.56	0.44	0.19	0.34
0	0	0	0	0
0	0	0	0	0
			Calculated Value	1.97

Calculated Value = 1.97

Degrees of Freedom = $(r-1) * (c-1) = (6 - 1) * (2 - 1)$
 $= 5$

Level of Significance = 5%

Table value = 11.07

Here the calculated value is lesser than the table value ($CV < TV$ i.e $1.97 < 11.07$). So, accept H_0 , hence there is no significant association between the age of the respondents and their opinion that elastic logistics helped organisation in scaling warehouse operations and resources. This implies that all the employees irrespective of their age believe that elastic logistics helped organisation in scaling warehouse operations and resources.

CHAPTER 5

FINDINGS AND CONCLUSION

5.1 FINDINGS OF THE STUDY

- About 7% of the respondents are below 18 years of age, about 28% of the respondent are between 18 to 24 years of age, 32% of the respondents are between 25 to 34 years of age, 24% of the respondents are between 35 to 44 years of age, about 9% of the respondent are between 45 to 54 years of age and about none of the respondent are above 54 years of age.
- About 87% of the respondents are male and 13% of the respondents are female.
- About 30% of the respondent have completed UG degree, about 22% of the respondents have completed PG degree, about 2% of the respondent have completed higher degrees after their PG, about 7% of the respondents are certificate holders, about 5% of the respondent are diploma, about 16% of the respondents are schooling level and 18% of the respondents have completed their higher secondary.
- About 95% of the respondents agree that elastic logistics is effective in their organisation and about 5% of the respondents disagree that elastic logistics is effective in their organisation.
- About 27% of the respondents have stated that cloud-based technology in elastic logistics will be suitable for the company, about 36% of the respondents have stated that micro fulfilment points in elastic logistics will be suitable for the company, about 22% of the respondents have stated that Omni channel fulfilment strategy in elastic logistics will be suitable for the company and about 15% of the respondents have stated that automation in elastic logistics will be suitable for the company.
- About 86% of the respondents have stated that implementation of elastic logistics helped their organisation in scaling warehouse operations and resources and about 14% of the respondents have stated that implementation of elastic logistics have not helped their organisation in scaling warehouse operations and resources.
- About 100% of the respondents have stated that employing a warehouse management system in the company helps in facilitating the management of elastic logistics.
- About 48% of the respondents strongly agree that elastic logistics helps in reducing human error, about 31% of the respondents agree that elastic logistics helps in reducing human error, about 21% of the respondents are in neutral that elastic logistics helps in

reducing human error and none of the respondents strongly disagree and disagree that elastic logistics helps in reducing human error.

- About none of the respondents strongly agree that elastic logistics helps in reducing scaling abilities in the organisation, about 15% of the respondents agree that elastic logistics helps in reducing scaling abilities in the organisation, about 14% of the respondents are in neutral that elastic logistics helps in reducing scaling abilities in the organisation, about 37% of the respondents disagree that elastic logistics helps in reducing scaling abilities in the organisation and 34% of the respondents strongly disagree that elastic logistics helps in reducing scaling abilities in the organisation.
- About 42% of the respondents strongly agree that elastic logistics helps in route optimisation, about 32% of the respondents agree that elastic logistics helps in route optimisation, about 18% of the respondents are in neutral that elastic logistics helps in route optimisation, about 7% of the respondents disagree that elastic logistics helps in route optimisation and about 1% of the respondents strongly disagree that elastic logistics helps in route optimisation.
- About 38% of the respondents strongly agree that elastic logistics process reduces the risk of investment to the organization, about 40% of the respondents agree that elastic logistics process reduces the risk of investment to the organization, about 12% of the respondents are in neutral that elastic logistics process reduces the risk of investment to the organization, about 10% of the respondents disagree that elastic logistics process reduces the risk of investment to the organization and none of the respondent has a strong disagreement that elastic logistics process reduces the risk of investment to the organization.
- About 45% of the respondents strongly agree that elastic logistics provides the organization with robust scaling capabilities, about 38% of the respondents agree that elastic logistics provides the organization with robust scaling capabilities, about 15% of the respondents strongly are in neutral that elastic logistics provides the organization with robust scaling capabilities, none of the respondents disagree that elastic logistics provides the organization with robust scaling capabilities and 2% of the respondents strongly disagree that elastic logistics provides the organization with robust scaling capabilities.
- About 13% of the respondents strongly agree that elastic logistics provides customers with real-time tracking facilities, About 66% of the respondents agree that elastic

logistics provides customers with real-time tracking facilities, About 17% of the respondents are in neutral that elastic logistics provides customers with real-time tracking facilities, about 4% of the respondents has a disagreement that elastic logistics provides customers with real-time tracking facilities and none of the respondents has a strong disagreement to the statement that elastic logistics provides customers with real-time tracking facilities.

- About 34% of the respondents strongly agree that usage of a common dashboard act as a valuable tool in elastic logistics, about 39% of the respondents agree that usage of a common dashboard act as a valuable tool in elastic logistics, about 13% of the respondents are in neutral that usage of a common dashboard act as a valuable tool in elastic logistics, about 9% of the respondent disagree that usage of a common dashboard act as a valuable tool in elastic logistics and about 5% of the respondent strongly disagree that usage of a common dashboard act as a valuable tool in elastic logistics.
- About 18% of the respondents strongly agree that implementing elastic logistics process in the firm results in reduction of cost to the organization, about 20% of the respondents agree that implementing elastic logistics process in the firm results in reduction of cost to the organization, about 26% of the respondents are in neutral that implementing elastic logistics process in the firm results in reduction of cost to the organization, about 23% of the respondents disagree that implementing elastic logistics process in the firm results in reduction of cost to the organization and 13% of the respondents strongly disagree that implementing elastic logistics process in the firm results in reduction of cost to the organization.
- About 21% of the respondents strongly agree that elastic logistics helps in resilience and collaboration in the firm, about 14% of the respondents agree that elastic logistics helps in resilience and collaboration in the firm, about 18% of the respondents are in neutral that elastic logistics helps in resilience and collaboration in the firm, about 25% of the respondents disagree that elastic logistics helps in resilience and collaboration in the firm and 22% of the respondents strongly disagree that elastic logistics helps in resilience and collaboration in the firm.
- About 21% of the respondents strongly agree that use of elastic logistics have resulted in increasing customer satisfaction and delight, about 24% of the respondents agree that use of elastic logistics have resulted in increasing customer satisfaction and delight, about 25% of the respondents are in neutral that use of elastic logistics have resulted in

increasing customer satisfaction and delight, about 18% of the respondents disagree that use of elastic logistics have resulted in increasing customer satisfaction and delight and about 12% of the respondents strongly disagree that use of elastic logistics have resulted in increasing customer satisfaction and delight.

- About 21% of the respondents strongly agree that elastic logistics helps in timely delivery to the customers, about 44% of the respondents agree that elastic logistics helps in timely delivery to the customers, about 22% of the respondents are in neutral that elastic logistics helps in timely delivery to the customers, about 8% of the respondents disagree that elastic logistics helps in timely delivery to the customers and about 5% of the respondents strongly disagree that elastic logistics helps in timely delivery to the customers.
- About 10% of the respondents strongly agree that elastic logistics implementation have helped the company to retain customers, about 12% of the respondents agree that elastic logistics implementation have helped the company to retain customers, about 19% of the respondents are in neutral that elastic logistics implementation have helped the company to retain customers, about 37% of the respondents disagree that elastic logistics implementation have helped the company to retain customers and about 22% of the respondents strongly disagree that elastic logistics implementation have helped the company to retain customers.
- About 17% of the respondents strongly agree that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience, about 40% of the respondents agree that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience, about 27% of the respondents are in neutral that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience, about 15% of the respondents disagree that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience and about 1% of the respondents strongly disagree that use of elastic logistics have benefitted business by the way of reduced risk and increased resilience.
- About 31% of the respondents strongly agree that use of elastic logistics helps in efficient utilisation of resources in the organisation, about 39% of the respondents agree that use of elastic logistics helps in efficient utilisation of resources in the organisation, about 22% of the respondents are in neutral that use of elastic logistics helps in efficient utilisation of resources in the organisation, about 8% of the respondents disagree that

use of elastic logistics helps in efficient utilisation of resources in the organisation and about none of the respondents strongly disagree that use of elastic logistics helps in efficient utilisation of resources in the organisation.

- About 35% of the respondents strongly agree that implementation of elastic logistics have resulted in gaining competitive advantage for the company, about 42% of the respondents agree that implementation of elastic logistics have resulted in gaining competitive advantage for the company, about 17% of the respondents are in neutral that implementation of elastic logistics have resulted in gaining competitive advantage for the company, About 3% of the respondents disagree that implementation of elastic logistics have resulted in gaining competitive advantage for the company and about 3% of the respondents strongly disagree that implementation of elastic logistics have resulted in gaining competitive advantage for the company.
- There is no significant association between the age of the respondents and their opinion that elastic logistics helped organisation in scaling warehouse operations and resources. This implies that all the employees irrespective of their age believe that elastic logistics helped organisation in scaling warehouse operations and resources.

5.2 SUGGESTIONS

- Majority of the respondents have reported that the company lack in customer satisfaction and delight which result in failure to retain customers. This can be overcome by better accuracy in order fulfilment which lead to more satisfied customers, which in turn leads to high customer retention.
- The company has to see to that it implements the right type of elastic logistics in their firm. Majority of the respondents stated that micro fulfilment points as the best suited elastic logistics strategy for the company.
- The important things that need to be followed in Elastic logistics are “Need must be IDENTIFIED, PREDICTED and SIMULATED”. The data-driven logistics makes it possible to alter the logistics based on ongoing trends, seasonal activities. This helps in cost reduction.
- The company should have the expertise, experience, storage systems, and digital programs to ensure comprehensive collaboration and maximum flexibility across all the product’s logistical phases.

- Proper training and development program regarding elastic logistics should be conducted to give insights about the advantages of using elastic logistics in the organisation to the employees.
- Motivation helps in improving the quality and quantity of job performance of the employees. This helps in increased business.

5.3 CONCLUSION

Numerous technological advancements were embraced in response to the challenges posed by the COVID-19 pandemic. These innovations encompassed the incorporation of artificial intelligence and the implementation of more agile software to address the evolving circumstances. While the concept of adaptability has existed for some time, it often went unrecognized by name. According to a 2022 report from McKinsey & Company, around 42% of companies experienced an average decline in performance, while 28% demonstrated remarkable growth. This divergence can be attributed to various factors, including the ability to adapt to new business models that prioritize digital experiences, products, and services in response to shifting consumer behaviours and needs. Additionally, companies made adjustments to their supply chains and operating models to mitigate risks, among other reasons. Consequently, this underscores the importance of adopting an elastic strategy within the supply chain to address logistics-related challenges. The companies that thrived were those that demonstrated resilience and adaptability in embracing new strategies. The primary objective of this research is to emphasize the significance of employing elastic supply chain management as a means to enhance resilience and adaptability when confronting unforeseen challenges.

This research aims to study about the elastic logistics in supply chain management in DIGITAL Company. It is a descriptive study. Survey was done in the DIGITAL LOGISTICS Company to understand the benefits of implementing elastic logistics in the organisation. The result of the study shows that elastic logistics ensure that the supply chain can efficiently adapt to unexpected changes and challenges while maintaining cost-effectiveness and customer satisfaction. This approach has become increasingly important in today's dynamic business environment, where disruptions and shifts in demand can occur with little warning. It is understood from the results that elastic logistics in this company have certain disadvantages. Recommendation can be adapted by the company to Retain customers and increase customer satisfaction thereby increasing the reputation and profitability of the business.

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ANNEXURE

QUESTIONNAIRE

Demographic profile

1. What is your age?
 - ☐ Under 18
 - ☐ 18-24
 - ☐ 25-34
 - ☐ 35-44
 - ☐ 45-54
 - ☐ Above 54
2. Which gender do you identify most with?
 - ☐ Male
 - ☐ Female
3. What is your educational qualification?
 - ☐ UG degree
 - ☐ PG degree
 - ☐ Higher than PG degree
 - ☐ Certificate holder
 - ☐ Diploma
 - ☐ Schooling
 - ☐ Higher secondary
4. Do you think elastic logistics is effective for your company?
 - ☐ Yes
 - ☐ No
5. What type of elastic logistics will be suitable for your company?
 - ☐ Cloud based technology
 - ☐ Micro fulfilment points
 - ☐ Omni channel fulfilment strategy

- Automation
6. Implementation of elastic logistics helped your organisation in scaling warehouse operations and resources?
- Yes
 - No
7. Employing a warehouse management system facilitates the management of elastic logistics?
- Yes
 - No

S. No	Particulars	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	Automation					
8	Helps in reducing human error					
9	Reduces scaling abilities					
10	Helps in route optimisation					
	Third party partnering					
11	Reduces risks of investing					
12	Provides robust scaling capabilities					
13	Helps in real time tracking to customers					
	Efficiency and control					
14	Usage of a common dashboard					
15	Reduction in costs					
16	Helps in resilience and collaboration					
	Enhanced user experience					

17	Increases customer satisfaction and delight					
18	Timely delivery					
19	Helps the companies to retain customers					
	Benefits					
20	Businesses benefit due to reduced risks and increased resilience					
21	Efficient utilisation of resources					
22	Helps in gaining competitive advantage					