



## **The Study on E – Commerce growth in Logistics with Special Reference to Chennai region.**

<sup>1</sup>Mr.E.V. Akhilesh

Student, II MBA Logistics, Hindustan Institute of Technology and Science, Chennai

<sup>2</sup>Dr.A. Poomagal

Assistant Professor (III), Hindustan Institute of Technology and Science, Chennai

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### **Abstract**

The logistics sector has been greatly influenced by growth in e-commerce. It is observed from the growth that, more people shop online. Logistics companies are under business pressure to offer quick, effective, and affordable delivery services. Delving deeper into understanding the prevailing growth in e-commerce industry, the researcher aimed to explore the growth of e-commerce in logistics operations. Logistics operations such as moving the materials from one component to another, stocking the materials, picking, packing and deliver the goods through Last mile delivery systems. **The objectives of the study are** a) To understand the development of E – commerce in Logistics companies, b) To know about the areas where e-commerce is implemented in logistics companies, c) The effects of e-commerce in logistics activities. The study is limited only for Chennai region, the data collection was done in the time period between Jan 2023 to February 2023. The researchers used **Structured Questionnaire** to collect the data from **10 (Sample size)** Logisticians across Chennai using **Convenience sampling Technique**. For the analysis, both primary and secondary data were employed. Statistical tools such as **Percentage analysis, one sample t test and ANOVA**. This study also discusses the logistical opportunities and constraints brought on by the expansion of e-commerce, as well as the approaches logistics firms might take to address these issues. The research found that, statistically significant difference is there between how e-commerce affects the organization growth and how e-commerce influences the returns of the company. Using ANOVA, the study found that, there is no variance between e-commerce helps in reverse logistics operations and real time tracking service is effective due to e-commerce usages.

**Keywords: Logistics, E-Commerce, Industry Growth.**

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### **1.Introduction**

E-commerce is the term used to describe the exchange of goods and services between companies and customers over the internet. Over the past few years, the e-commerce sector has experienced tremendous expansion on a global scale. Although the growth of e-commerce is not new, the COVID pandemic unquestionably has accelerated it. Organizations that offer logistical services are directly impacted by the expansion of the e-commerce sector. Online retailers are more frequently outsourcing logistics to complete orders without error and on time. Indian Logistics industry currently into inbound and outbound operations in the retail business through online. To protect from the risks and losses and to promote the market sales, Logistics and E – commerce couples them for finding out new strategies which includes contactless delivery to the

customers. Competitive pricing is one strategy to increase the sales and driving the logistics performance higher.

To manage the supply chains of online enterprises most effectively, firms started integrating the newest technologies into their platform's capabilities, including artificial intelligence, machine learning, the Internet of Things, and automation. The adoption of cutting-edge technology is pointing the Indian logistics industry in the direction of a bright future because it makes it easier to compare shipping rates from various carriers on a single platform, use cloud calling to confirm orders, track packages in real-time, and select the most cost-effective carrier partner based on various criteria.

To thrive and remain successful in the market, the logistics partners must continue deploying solutions that provide agility, flexibility, simplicity, and competitive pricing. By embracing technology improvements, businesses may also expand and effectively meet the constantly shifting wants of consumers. With rising customer expectations, the digital transition, and quick expansion. E-commerce has completely changed how people purchase for products and services, as well as how the logistics sector operates. Logistics businesses have had to adjust to satisfy the evolving needs of e-commerce clients as more consumers purchase online. This study looks at how the e-commerce business is growing and how logistics companies can stay competitive in this sector that is changing so quickly.

### **1.2 Objective**

- a) To understand the development of E – commerce in Logistics companies,
- b) To know about the areas where e commerce is implemented in logistics companies,
- c) The effects of e commerce in logistics activities

### **1.2 Scope**

This study will help to understand the growth of E commerce's support into Logistics businesses. It will also enable the readers to understand how e commerce is influencing the logistics business and helps in making sound profit.

### **1.3 Limitation**

The study is limited only for Chennai region, the data collection was done in the time period between Jan 2023 to February 2023.

## **2. Review of literature**

- <sup>1</sup>In conclusion, e-commerce has the potential to significantly alter the economies of developing nations by expanding small enterprises' access to markets. Governments, companies, and the civil society must work together to address the issues preventing the growth of e-commerce in emerging nations. Such cooperative initiatives can enable developing nations to accept and profit from contemporary systems while promoting sustainable economic progress.
- <sup>2</sup> According to the analysis, e-commerce has drastically changed the logistics sector and increased the demand for sustainability. In order to create sustainable urban logistics operations, it is crucial that legislators, urban planners, and logistics corporations collaborate. The literature evaluation emphasizes the need for more study on the application of environmentally friendly practices in urban logistics for e-commerce.

- <sup>3</sup> According to an assessment of the literature, e-commerce has the potential to completely change the Indian economy by expanding employment opportunities, raising living standards, and letting companies contact clients worldwide. In order to assure the sector's sustained expansion, governments must address a number of obstacles.
- <sup>4</sup>The literature review "The Effect of E-Commerce-Related Last-Mile Logistics on Cities" offers insightful information on the difficulties and possibilities related to e-commerce last-mile delivery in urban areas. The report contends that in order to overcome the difficulties of last-mile delivery and advance sustainable urban logistics, a coordinated strategy combining local authorities, e-commerce businesses, and last-mile logistics providers is essential.
- <sup>5</sup>In conclusion, technology improvements, shifting consumer preferences, and rising internet penetration are all contributing to India's e-commerce sector's rapid growth and evolution. These elements make it a perfect industry for entrepreneurship and investment, providing excellent chances for both new and established firms. To maintain this expansion, though, there are still issues with logistics, infrastructure, and laws that must be resolved.
- <sup>6</sup>India's e-commerce market is a complicated one that is influenced by the local culture and confronts a number of difficulties. To appeal to their target audience and avoid upsetting anyone, e-commerce businesses need to be aware of cultural quirks. To compete in the Indian market, firms must also address issues with infrastructure, logistics, payment methods, and the legal framework.
- <sup>7</sup> The research on the development of e-commerce in India offers insightful information on the causes behind this growth, how e-commerce affects conventional retail firms, and the legal framework for e-commerce transactions. The prospects and difficulties of e-commerce in India may be better understood by policymakers, companies, and consumers with the aid of these insights.
- <sup>8</sup>In conclusion, corporate operations can be significantly impacted by the integration of logistics systems with e-commerce and ERP systems. Integrated logistics solutions can aid businesses in achieving higher efficiency, productivity, and profitability by enhancing supply chain management, cutting costs, extending customer reach, and enhancing collaboration and communication.
- <sup>9</sup> In conclusion, e-commerce logistics has grown in significance within the furniture sector as businesses seek to enhance supply chain management and adapt to changing consumer needs. Businesses may overcome the difficulties of moving furniture while increasing their productivity and profitability by utilising specialised logistics solutions and technology. With trends like mobile shopping and sustainability reshaping the industrial landscape, e-commerce logistics will continue to be important in the furniture sector.
- <sup>10</sup>In conclusion, e-logistics is becoming a more significant sector of the Polish e-commerce market as businesses work to enhance their delivery, warehousing, and returns management options in response to shifting consumer needs. Businesses may increase their productivity and profitability while staying one step ahead of the competition in

this quickly expanding sector by investing in cutting-edge technologies and creative solutions.

### 3. Research methodology

This study employs a quantitative research design that entails gathering information from 10 logistics companies in Chennai using a standardized questionnaire. Both primary and secondary data were employed in the investigation. A sampling technique called Convenience Sampling was used to collect the data. Statistical tools such as t test and ANOVA analyses were used to experimentally assess the data that had been gathered.

#### 4. Data demonstration & construction

##### 4.1 ANOVA

ANOVA test to find the variance between E-Commerce helps in reverse logistics (V1) and real time tracking service is efficient (V2)

$H_{01}$ : There is no significant variance/difference between the variables.

**Table No 4.1.1 E - Commerce helps in operation of reverse logistics and real time tracking service is efficient**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.243	2	.121	.253	.783
Within Groups	3.357	7	.480		
Total	3.600	9			

#### Inference

It is observed from the ANOVA test, F value is found to be 0.253. The P value is found to be  $0.783 > 0.05$ . Thus, it is concluded to accept the null hypothesis. Therefore, it is revealed that, there is a close association between the variables. It is found that, Real time tracking service efficiency is influenced on the effectiveness of ecommerce in reverse logistics.

##### 4.2 t- Test Analysis

**t- Test analysis is executed to find the mean difference between the variables.**

##### Hypothesis 1:

$H_{01}$ : There is no significance difference in the mean how much e-commerce affects the development of your organisation and how much it affects the company's profits.

**Table No 4.2.1 Shows the t test for the E-commerce influence the growth of the organisation and E-commerce directly influence returns of the company**

**One Sample Test:**

	t	df	Significance		Mean Difference
			One-Sided p	Two-Sided p	
E - Commerce influences the growth of the organization"	36.000	9	<.001	<.001	4.800
E - Commerce directly influences returns of the company"	20.146	9	<.001	<.001	4.300

## Inference

The result of above table states that there is a significance difference in the variable E-commerce influence the growth of your organization (M=4.80, t value is 36.00), and other variable E-commerce directly influence returns of the company (m=4.30, t value is 20.14) and p value is <0.001. the result accepts the alternative hypothesis with 5 % of significant level and 95 % of confident level. Therefore, it concluded there is a significance difference between E-commerce influence the growth and E-commerce directly influence returns.

### Hypothesis 2:

**HO<sub>2</sub>:** There is no significance difference between how much e-commerce aids reverse logistics operations and how manageable transit costs.

**Table no 4.2.2 Shows the t test for the E-commerce helps in operation of reverse logistics One Sample Test**

	t	df	Significance		Mean Difference
			One-Sided p	Two-Sided p	
E - Commerce helps in operation of reverse logistics"	21.000	9	<.001	<.001	4.200
Transportation cost is manageable	13.416	9	<.001	<.001	4.000

## Inference

The result of above table states that there is a significance difference in the variable E-commerce helps in reverse logistics (M=4.20, t value is 21.00), and other variable transportation cost is manageable (m=4.00, t value is 20.125) and p value is <0.001. the result accepts the alternative hypothesis with 5 % of significant level and 95 % of confident level. Therefore, it concluded there is a significance difference between E-commerce helps in operation of reverse logistics and transportation cost is manageable.

### Hypothesis 3:

**HO<sub>3</sub> :** There is no significance difference between how much e-commerce directly influences the returns of the firm and whether profit has improved in the previous two years.

**Table no 4.2.3 Shows the t test for the how much E-commerce directly influence returns of the company and profit increased in last 2 years**

	t	df	Significance		Mean Difference
			One-Sided p	Two-Sided p	
E - Commerce directly influences returns of the company"	20.146	9	<.001	<.001	4.300
Whether profit has been increased in last 2 years	20.125	9	<.001	<.001	4.500

## Inference

The result of above table states that there is a significance difference in the variable E-commerce directly influences the returns ((M=4.30), t value is 20.146), and other variable profit

increased in last 2 years (( $m=4.50$ ),  $t$  value is 20.125) and  $p$  value is  $<0.001$ . the result accepts the alternative hypothesis with 5 % of significant level and 95 % of confident level. Therefore, it concluded there is a significance difference between E-commerce directly influence return of the company and profit increase in 2 years.

### **5. Findings and discussion**

The researchers attempted to analyze the E – commerce growth in logistics with special reference to Chennai region. Various factors and variable pertaining to E – commerce growth in logistics were circulated through questionnaire to understand the growth which influences logistics sector. The different tests using the statistical tools were executed to find the in-depth of the study such as ANOVA and  $t$  test. **I. Findings of ANOVA:** The result of ANOVA analysis revealed that here is no significant variance/difference between E-Commerce helps in reverse logistics (V1) and real time tracking service is efficient (V2). It is found that, Real time tracking service efficiency is influenced on the effectiveness of ecommerce in reverse logistics. **II. Findings of t-test:** The result of  $t$ -test exposed that, there is statistically significant differences between a) between how much e-commerce affects the development of your organization and how much it affects the company's profits, b) how much e-commerce aids reverse logistics operations and how manageable the transit costs are, c) how much the e-commerce directly influences the returns of the firm and improvement of profit has improved in the previous two years.

### **6. Conclusion**

The researcher conducted this study to gain better understanding in the expansion of e-commerce in logistics. The study discovered that, as online shopping platforms have grown, e-commerce has a significant impact on logistics services. The study discovered a statistically significant difference between how e-commerce affects an organization's growth and how it affects the company's returns. It is completely able to conclude that E commerce is significantly with some differences affects the organizational growth and revenue part. The study also depicts that there is no difference between how much e-commerce aids reverse logistics operations and how well real-time tracking service because of e-commerce. As a result of this tireless research, revealed that, the time tracking services is influencing the efficiency of e-commerce in supporting the reverse logistics. Hence, effectiveness of Logistics operations and its other supplementary operations are aided by efficiency of E commerce.

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