

A Study on Customer Satisfaction Towards Last-Mile Delivery Services in the E-Commerce Sector

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Abstract- The rapid expansion of the e-commerce industry has transformed the retail sector by enabling customers to purchase products conveniently through digital platforms. Among the various stages of the supply chain, last-mile delivery plays a significant role in determining customer satisfaction because it represents the final interaction between the company and the customer. Timely delivery, accurate tracking information, product safety, professional behaviour of delivery personnel, and efficient return services contribute greatly to customer experience. This study examines customer satisfaction towards last-mile delivery services in the Indian e-commerce sector. A descriptive research design was adopted, and primary data were collected from 202 online shoppers using a structured questionnaire through convenience sampling. Secondary data were collected from books, journals, company websites, and research articles. The collected data were analysed using percentage analysis, frequency distribution, mean analysis, and the Chi-square test. The findings indicate that most respondents are satisfied with delivery speed, product condition, real-time tracking, customer support, and return policies. The statistical analysis confirmed a significant relationship between the quality of last-mile delivery services and customer satisfaction. The study concludes that improving logistics efficiency, adopting advanced technologies, strengthening customer support, and enhancing delivery reliability can significantly improve customer loyalty and business performance. The findings provide valuable insights for e-commerce companies to enhance their logistics strategies and maintain a competitive advantage in the rapidly growing digital marketplace.

Keywords- E-Commerce, Last-Mile Delivery, Customer Satisfaction, Logistics, Online Shopping, Customer Loyalty, Supply Chain, Delivery Service

I. INTRODUCTION

Electronic commerce has become one of the fastest-growing business sectors worldwide. In India, rapid internet penetration, smartphone usage, digital payment systems, and improved logistics infrastructure have encouraged consumers to shift from traditional shopping to online platforms. Companies such as Amazon, Flipkart, Meesho, Myntra, and AJIO continuously compete by offering faster deliveries and better customer service.

Last-mile delivery refers to the final stage of the logistics process, where products are transported from fulfilment centres or warehouses directly to customers. Since customers directly experience this stage, it has a major influence on their satisfaction, loyalty, and repeat purchase behaviour. Delays in delivery, damaged products, inaccurate tracking information, and poor customer support negatively affect customer perception. With increasing competition among e-commerce companies, providing efficient last-mile delivery has become essential for sustaining customer satisfaction and maintaining long-term business success. Therefore, this study analyses customer satisfaction towards last-mile delivery services and identifies the factors influencing customer experience.

II. LITERATURE REVIEW AND RESEARCH GAP

Several researchers have examined different aspects of last-mile delivery and customer satisfaction. Mangiaracina et al. (2019) highlighted innovative delivery solutions such as parcel lockers and automated delivery systems to improve logistics efficiency. Boysen et al. (2021) concluded that optimized routing and sustainable delivery models

improve operational performance. Liu et al. (2020) found that delivery speed, reliability, and flexible delivery options strongly influence customer satisfaction. Parasuraman, Zeithaml, and Berry (1988) introduced the SERVQUAL model, which continues to be widely used for measuring service quality.

Although previous studies have extensively examined logistics performance and service quality, limited research has specifically analysed customer satisfaction towards last-mile delivery services in the Indian e-commerce sector using primary consumer data. Hence, this study attempts to bridge this research gap.

III. RESEARCH OBJECTIVES AND HYPOTHESES

Objectives

- To examine customer satisfaction towards last-mile delivery services.
- To identify factors affecting customer satisfaction.
- To evaluate delivery speed, product safety, and tracking facilities.
- To assess customer support and delivery personnel behaviour.
- To suggest measures for improving last-mile delivery performance.

Hypotheses

H₀: There is no significant relationship between last-mile delivery service quality and customer satisfaction.

H₁: There is a significant relationship between last-mile delivery service quality and customer satisfaction.

IV. RESEARCH METHODOLOGY

The study adopted a descriptive research design. Primary data were collected through a structured questionnaire from 202 online shoppers selected using convenience sampling. Secondary information was collected from books, research journals, company reports, government publications, and authentic

websites. The collected data were analysed using percentage analysis, frequency distribution, mean analysis, and the Chi-square test.

V. RESULTS

The study revealed that the majority of respondents belonged to the 21–30 years age group. Flipkart and Amazon emerged as the most preferred online shopping platforms. Most respondents expressed satisfaction regarding timely delivery, safe product handling, real-time tracking, professional behaviour of delivery personnel, and customer support. Overall, customers showed a favourable opinion towards last-mile delivery services. The Chi-square analysis confirmed that delivery service quality significantly influences customer satisfaction.

VI. DISCUSSION

The findings indicate that delivery speed, order tracking, product safety, and effective customer service significantly improve customer satisfaction. E-commerce companies should continuously invest in advanced logistics technologies, route optimisation, AI-based delivery systems, and employee training to enhance customer experience. Efficient last-mile delivery not only increases customer satisfaction but also improves customer loyalty and repeat purchase intentions.

VII. MANAGERIAL IMPLICATIONS

- Improve delivery speed through better logistics planning.
- Strengthen real-time tracking systems.
- Train delivery personnel to improve customer interaction.
- Enhance return and replacement procedures.
- Adopt Artificial Intelligence and automation to improve operational efficiency.
- Collect customer feedback regularly for continuous improvement.

VIII. CONCLUSION

The study concludes that last-mile delivery has become one of the most important determinants of

customer satisfaction in the e-commerce sector. Customers highly value timely delivery, accurate tracking, safe product handling, and professional customer service. The statistical findings confirmed that improvements in delivery quality significantly enhance customer satisfaction and loyalty. Therefore, e-commerce companies should continue investing in logistics infrastructure and innovative technologies to improve operational efficiency and maintain long-term customer relationships.

IX. LIMITATIONS AND FUTURE RESEARCH

Limitations

- The study included only 202 respondents.
- Convenience sampling was used.
- Responses were based on customer opinions.
- The study was conducted within a limited geographical area.

Future Research

- Increase the sample size.
- Compare multiple e-commerce companies.
- Study customer satisfaction in rural and urban areas separately.
- Analyse the impact of AI, drones, and green logistics on last-mile delivery.

REFERENCES

- [1] Kotler, P., & Keller, K. L. (2016). *Marketing Management* (15th ed.). Pearson Education.
- [2] Kothari, C. R. (2004). *Research Methodology: Methods and Techniques*. New Age International Publishers.
- [3] Malhotra, N. K. (2019). *Marketing Research: An Applied Orientation* (7th ed.). Pearson.
- [4] Mangiaracina, R., Perego, A., Seghezzi, A., & Tumino, A. (2019). Innovative solutions to increase last-mile delivery efficiency. *Sustainability*.
- [5] Boysen, N., Fedtke, S., & Schwerdfeger, S. (2021). Last-mile delivery concepts: A survey from an operational research perspective. *OR Spectrum*.

- [6] Liu, S., Giannikas, V., Petropoulos, F., & Lim, M. K. (2020). *International Journal of Production Research*.
- [7] Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*.