



## A STUDY ON LAST MILE DELIVERY CHALLENGES WITH SPECIAL REFERENCE TO SWIGGY CHENNAI

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### Abstract

*This research investigates the issues encountered by Swiggy, a prominent food delivery platform in India, in the final leg of delivery as perceived by its clients and delivery associates. The research design followed a quantitative approach, utilizing a survey questionnaire to obtain data from Swiggy's customers and delivery partners. The questionnaire contained fixed-response questions to gauge customer contentment levels, delivery speed, and other variables that affect the last mile delivery process. The questionnaire also included open-response questions to enable participants to provide detailed feedback on their experiences and suggest potential enhancements to Swiggy's last mile delivery system. Statistical analysis tools such as descriptive statistics, Chi square analysis, and ANOVA analysis were employed to analyze the data. The results indicate that Swiggy confronts issues such as late deliveries, incorrect orders, and unresponsive customer service. The research also proposes solutions to overcome these hurdles and improve Swiggy's last mile delivery process, such as enhancing order accuracy, investing in technology, and improving communication channels between stakeholders. The study's findings offer valuable insights for Swiggy and other food delivery companies to optimize their last mile delivery processes, cut costs, and improve customer satisfaction.*

**Keywords:** Food Delivery Platform, Delivery Partner, Customer Service.

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## 1. Introduction

Delivering items from a distribution center to their final location, generally a home or company, is known as the "last mile" portion of the delivery process. The importance of last mile delivery in the logistics sector has increased with the growth of e-commerce and online purchasing.

The logistics sector, particularly in the food delivery sector, depends heavily on last mile delivery. Due to the e-commerce sector's explosive growth, last mile delivery has emerged as a major problem for businesses all over the world. The success of food delivery services like Swiggy rests on its capacity to offer their clients quick and dependable last mile delivery services. However, there are a number of issues that hinder last-mile delivery, including bad weather, incorrect delivery addresses, and traffic congestion. The profitability of logistics companies and the entire customer experience may be significantly impacted by these difficulties. With a presence in more than 500 locations, Swiggy is one of India's biggest online food delivery services. The business has grown significantly in recent years, and in 2020 it is expected to generate over \$250 million in revenue. However, Swiggy is having trouble with the last mile of delivery due to the rising demand for its services. The business must make sure that their services continue to be dependable, quick, and convenient in order to satisfy India's rising demand for food delivery services.

The study will also look at how these difficulties have an effect on Swiggy's customer service and business operations. For example, delays in the last mile delivery procedure might result in unhappy customers, order cancellations, and unfavourable reviews, which can harm Swiggy's brand name and financial success. Swiggy's existing tactics for overcoming these difficulties will be assessed in the study, along with any room for improvement.

## 2. Objectives of the Study

- To analyze the impact of last mile delivery challenges on customer satisfaction and loyalty towards Swiggy.
- To find out the factors affecting effectiveness of last mile delivery of Swiggy

- To access the effectiveness of delivery partners performance in meeting last mile delivery challenges.
- To propose recommendations for improving Swiggy's last mile delivery operations and enhancing the customer experience.

## 3. Need for Study

- To understand the difficulties encountered in the last mile delivery area of the food delivery industry, which is essential for ensuring client happiness and promoting company expansion.
- To stay a competitive edge in the food delivery market, where last mile delivery has emerged as a key differentiator in terms of service effectiveness, efficiency, and clients.

## 4. Scope of the Study

- Analyze the current state of last mile delivery operations in the food delivery industry in India.
- Explore potential solutions and strategies to overcome these challenges and optimize last mile delivery operations for Swiggy.
- Understand the impact of these challenges on customer satisfaction and business growth for Swiggy.

## 5. Review of Literature

In order to ensure consumer pleasure and loyalty, businesses like Swiggy must effectively manage last mile delivery, which is a crucial component of the food delivery industry. This assessment of the literature focuses on the difficulties Swiggy has had with last-mile deliveries in the Indian market.

<sup>1</sup>Claudia archetti et al (2021). The study concludes that a dispersed network strategy based on the concept of crowd logistics is the best environmentally friendly approach for last-mile logistics and food delivery. This highlights how important it is for the logistics sector to create innovative services that make it easier for customers to choose sustainable options.

<sup>2</sup>Pourrahmani E et al (2021). The paper gives an overview of platforms for crowdshipping last-mile

delivery and analyses key characteristics that set services apart. The study discovered a disconnect between real-world problems and scientific answers and identifies intriguing topics for further study.

<sup>3</sup>Melkonyan A et al.'s (2020) The study finds that the most environmentally friendly method for last-mile logistics and food delivery is a dispersed network strategy built on the idea of crowdlogistics. This demonstrates how crucial the logistics industry is to developing new services that make it simpler for clients to make sustainable decisions.

<sup>4</sup>Kenneth et al. (2009). The study presents data on how delivery efficiency for consumer direct firms is impacted by customer density and delivery window length, and also the report offers managers a framework for increasing customer satisfaction and delivery effectiveness while controlling expenses.

<sup>5</sup>Cosmi Met al. (2019). The paper proposes a solution to a scheduling problem faced by a food company in their last mile delivery setting. The proposed solution approach is effective in minimizing the number of late deliveries and can be applied not only in the food delivery setting but also in the context of internal manufacturing logistics.

<sup>6</sup>Simon, Emde et al. (2019) The proposed mixed-integer programming models and heuristics were shown to perform well in solving the problem of scheduling direct deliveries from a single source to multiple customers, with the objective of minimizing the truck fleet and minimizing customer waiting times. The study also identified a subproblem that can be solved in polynomial time.

<sup>7</sup>Ghilas V et al. (2016) The Pickup and Delivery challenge, which tries to arrange automobiles to transfer parcels utilising scheduled passenger transport services, is a brand-new issue that the paper puts out. The findings demonstrate that compared to the typical pickup and delivery scenario, using scheduled line services as a part of the package's path results in significant operating cost reductions.

<sup>8</sup>Naccache S et al. (2018). The paper proposes a solution to the multi-pickup and delivery problem with time windows in the field of pickup and

delivery vehicle routing. The developed algorithms are tested on different instances, and the results show that the heuristic performs well compared to the exact method.

<sup>9</sup>Ye Y.(2015) The case study company Ele.me is the main subject of the research paper's discussion of the online to offline food delivery situation and difficulties in China. The study emphasizes the significance of understanding the distinctive features of the Chinese market and the necessity for businesses to successfully adapt to local conditions. Overall, the study offers insightful information about the difficulties and possibilities facing China's online food delivery market.

<sup>10</sup>Maimaiti M et al. (2018) This paper concludes that Online-to-offline (O2O) food delivery services have become increasingly popular in China, which has had a big impact on the country's food culture and eating habits. It has chances to increase food supply and accessibility, but it also presents problems for China's social environment and public health.

<sup>11</sup>Imran Hameed M S et al. (2023) The study aimed to understand the logistics service quality of Nykaa, an e-commerce business in India, from the perspective of college students. The findings will help Nykaa and other e-commerce companies to improve their logistics services and enhance customer experience.

## 6. Research Methodology

The study is Descriptive in nature as it attempts to find the facts. The sample size of the study is 103 and the samples were collected through Convenience Sampling Technique. The study used both Primary and Secondary data. A structured questionnaire was framed to collaborate the variables pertaining to the Customer satisfaction of last mile delivery of Swiggy. Statistical tool such as ANOVA and CHI-SQUARE and FACTOR ANALYSIS is implemented to execute the statistical test for various variables.

## 7. Data Analysis

### Factor Analysis

Table 1: Challenging Factors of Swiggy Delivery Service

ITEMS	COMPONENTS			
	On-time	Tracking	Quality	Packaging

	delivery	issues	issues	issues
orders are often delivered late	0.856			
Delivery executive not picking up call	0.845			
Delivery not according to instruction	0.842			
Showing delivered but not delivered actually	0.8439			
Inadequate on app updates on tracking		0.843		
Tracking Inaccurate		0.782		
Expected delivery time updates not showing		0.775		
Order tracking not according to predicted time		0.746		
Network update not on time		0.632		
Order delivered is different			0.821	
Food quality not as expected			0.803	
Delivered food is not fresh			0.786	
Food packaging not appropriate				0.793
Freshness of food not retained after packaging				0.778
Packaging is not recyclable				0.764
Eigen values	9.081	2.643	1.223	1.001
Percentage of variance	46.24	14.113	6.067	5.017
Cumulative percentage	46.23	58.326	64.612	71.637

**Source:** primary data

**Extraction method:** Principle component analysis

**Rotation method:** vary max with keyser normalization rotation converged in 10 hydrations

### Interpretation

#### Factor Analysis on Time Delivery

Four statements are filtered under these head called on time delivery with highest value on orders are often delivered late.

#### Tracking Issue

The five statements are filtered under these head called tracking issue with highest value on inadequate on app updates on tracking.

#### Quality Issues

The three statements are filtered under these head called Quality issues with highest value on order delivered is **different**.

#### Packaging Issues

The three statements are filtered under these head called packaging issues with highest value on food packaging not appropriate.

### Reliability Statistics

Cronbach's Alpha	N of items
0.931	18

### Interpretation

This is a reliability analysis test and, in this study, it shows that .931 which is a good measure of reliability so all the number of items 15 are reliable for further tests.

### KMO and Bartlett's Test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.806
Bartlett's test of sphericity	Approx chi-square	1064.863
	df	190
	Sig.	0.001

### Interpretation

It shows that there is a high level of correlation between all the variables selected and additive apply factor analysis.

### Chi Square Test

**Aim:** Chi-Square test is executed to find the significant difference between Usage of Swiggy's food delivery service and satisfaction of delivery time of your Swiggy orders.

H0: There is no significant association between the satisfaction on on-time delivery of your Swiggy orders and Usage of Swiggy's food delivery service.

Chi - Square			
	Value	df	Asymptotic Significance (2-sided)
Pearson chi square	28.384 <sup>a</sup>	12	.005
Likelihood Ratio	33.178	12	<.001
Linear by linear Association	10.819	1	.001
N of valid cases	103		

### Interpretation

It is observed from the above table, Chi Square value is 28.384, the significant P value is found to be 0.05<0.05, hence it is concluded to accept the null hypothesis. Therefore, it is interpreted that, there is likeliness between Usage of Swiggy's food delivery service and satisfaction of delivery time of your Swiggy orders.

### Chi Square Test

**Aim:** Chi-Square test is executed to find the significant difference between satisfaction of delivery time of your Swiggy orders and Usual wait for delivery of your Swiggy order.

H0: There is no significant association between the variable's satisfaction of delivery time of your Swiggy orders and Usual wait for delivery of your Swiggy order.

Chi – Square			
	Value	df	Asymptotic Significance (2-sided)
Pearson chi square	20.284 <sup>a</sup>	12	.062
Likelihood Ratio	20.773	12	.054
Linear by linear Association	4.846	1	0.28
N of valid cases	103		

### Interpretation

It is observed from the above table, Chi Square value is 20.284, the significant P value is found to be  $0.06 < 0.05$ , hence it is concluded that it fails to reject the null hypothesis. Therefore, it is interpreted that, there is no likelihood between satisfaction of delivery time of your Swiggy orders and Usual wait for delivery of your Swiggy order.

## 8. Findings

The study used chi square revealed that, it is interpreted that, there is significant relationship between Usage of Swiggy's food delivery service and satisfaction of delivery time of your Swiggy orders. So swiggy should focus on delivery time of an order

Factor analysis revealed that, it shows that there is a high level of correlation between all the variables selected and additive apply factor analysis.

## 9. Conclusion

The paper concludes that Swiggy faces challenges in optimizing their last mile delivery operations, with delivery delays being a major issue. The study suggests potential solutions to overcome these challenges, such as improving routing and training delivery agents. The paper emphasizes the importance of timely delivery, accurate order fulfillment, and proper packaging in determining customer satisfaction with last mile delivery in the

food industry. The study provides insights into the complexities of last mile delivery operations and highlights the need to address these challenges to improve customer experience and business performance.

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