



SUSTAINABILITY ON YOUR PLATE: SERVICE GAP ANALYSIS OF FOOD DELIVERY APPS AMONG STUDENTS

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Abstract

The purpose of this study is to help in the sustainability agenda of food delivery services, through investigating service differentials among students and determining how the services can be streamlined to promote continued engagement with a minimum environmental and social footprint. Since Swiggy and Zomato are the main lifestyle brands with 45.6 percent and 43.9 percent of respondents using each of these past 12 months, the study examines the student satisfaction levels along five dimensions of quality of service: reliability, responsiveness, assurance, empathy, and tangibles. The study uses a convenience sampling and a descriptive research approach to determine that 78.9 percent of the students were satisfied and highly satisfied, their SERVQUAL scores were above 4.0 on a 5-point scale, and their perceived quality was strong. Nevertheless, a low proportion (1.8 percent) expresses high dissatisfaction, which indicates that there are service gaps. Customer care factors such as complaint resolution and access to customer care display a significant positive correlation ($r=0.654$), which underscores the role of elements in rating of service quality. Feedback indicates areas of work needed to be enhanced on food quality, deliveries made on time, discounts and packaging which may include sustainable practices. Focusing on reliability and empathy with encouraging innovation and sustainable value-additions, food delivery applications can retain student attention and satisfy their changing expectations and provide greater sustainability promise like achieving waste and carbon reduction. Such attention does not only increase the competitive edge but also is in line with the increased environmental consciousness of consumers.

Keywords: *Service Gap Analysis Food Delivery Apps, Customer Satisfaction, SERVQUAL Model Sustainability.*

Introduction

The unique development of food delivery apps has made the accessibility of food for students more of a revolution and has been able to provide the largest possible convenience, diversity, and price friendliness. Nevertheless, the increased demand has also demonstrated serious sustainability issues, such as too much packaging waste, too much carbon emission of delivery trucks, and too much food waste, which are all environmentally unfriendly and may jeopardize the sustainability of these services in the long run. The Indian government has realised these issues and has taken measures like the Digital Food Security Apps to enhance the efficiency in food distribution, the Open Network for Digital Commerce (ONDC) to foster fair and sustainable digital marketplaces, and the Plastic-Free Orders Packathon together with the Startup India to promote environmentally friendly packaging solutions. Among influencing factors to the sustainability in food delivery, single-use plastics in packaging may also be noted. Carbon emissions from transport, and inefficient food ordering systems. In response, industry trends are evolving with the adoption of biodegradable packaging, transition to electric delivery fleets, AI-driven logistics to optimize delivery routes, and student-centric discount programs to encourage sustainable food choices. The purpose of this study is thus to complete a service gap analysis of food delivery apps among students and evaluate the effectiveness of the current sustainability practices as well as the opportunities to enhance the current situation and better align the consumption habits of students and environmentally friendly practices.



Objectives

To assess the reliability of the service by evaluating the consistency, accuracy, and dependability of the services provided to customers.

To analyze the responsiveness of the service provider in terms of promptness, willingness to help customers, and timely resolution of issues.

Review of Literature:

A systematic review by Liu et al. identifies consumer behavior as a critical area in food delivery applications, emphasizing the need for a comprehensive understanding of how consumers interact with these platforms. The study highlights factors influencing consumer behavior, such as regional differences and demographic variables, and suggests future research directions to fill existing gaps (Liu et al., 2024).

Health Perceptions and Usage Among Students

Ismail et al. conducted a cross-sectional study in the UAE, focusing on university students' use of online food delivery applications (OFDAs) and their perceptions of food healthiness. The study found significant associations between socio demographic characteristics and healthy food choices, indicating that students' perceptions of healthiness influence their use of OFD As (Ismail et al., 2024).

Sustainability and Environmental Impact

Woy et al. explore the sustainability of convenience foods, including those delivered via food apps, by examining environmental, health, and sociological impacts. The study suggests that while environmental issues are often prioritized, other sustainability aspects, such as human health and psychological well-being; require further investigation (Woy et al., 2024).

Hippner and Sucky's analysis of Quick Commerce (Q-Commerce) highlights the ecological sustainability challenges faced by rapid delivery services. The study calls for more research into the environmental impacts of Q-Commerce, which is increasingly competing with traditional retail (Hippner & Sucky, 2023).

Interventions for Sustainable Diets in University Settings

Kratzer et al. review interventions in university food services aimed at promoting healthy and sustainable diets. The study finds that interventions such as labeling and increased availability of sustainable options can be effective and suggests that these strategies be implemented more widely, accompanied by robust evaluations (Kratzer et al., 2024).

Research Methodology

The research design used in this study is the descriptive one in order to investigate the service gap in food delivery apps among Chennai students. The structured questionnaire was used to gather data based on the perception of sustainability practices, convenience and the overall service experience of the students. To achieve accessibility and relevance in the objectives of a study a convenience sampling method was used to sample 171 students in different colleges in Chennai. ANOVA was used to analyze the collected data to test the difference in perception between different groups of people in each of the demographic groups, correlation analysis to determine the relationship between. Variables like awareness of sustainable practices, frequency of app usage and satisfaction levels. The approach will enable one to gain a holistic view of the experience of students and identify some gaps that may exist in the sustainability of food delivery platforms.



Analysis and Discussion

Correlations			
		Reliability (Consistency and accuracy of service) [The food is delivered within the promised time frame.]	Assurance [I feel safe while making digital payments on the app.]
Reliability (Consistency and accuracy of service) [The food is delivered within the promised time frame.]	Pearson Correlation	1	.601**
	Sig. (2-tailed)		.000
	N	170	170
**. Correlation is significant at the 0.01 level (2-tailed).			

The correlation analysis shows that there is a strong positive relationship ($r = 0.601$) between Reliability (consistency and accuracy of service) and Assurance (feeling safe while making digital payments) among food delivery app users. The p-value (.000) is less than 0.01, indicating that this correlation is statistically significant at the 1% level. This means that as the reliability of the food delivery service increases, users' sense of assurance and safety in digital payments also increases. The result suggests that timely and consistent delivery plays a vital role in enhancing customer trust and perceived safety when using food delivery apps. When users experience reliable service—such as receiving food within the promised time—they are more likely to feel secure and confident while making online payments. This finding supports the idea that service reliability directly influences users' assurance and trust in the digital payment process. These results align with previous studies in service quality research, which emphasize that reliability and assurance are key dimensions of customer satisfaction and loyalty in online food delivery platforms. Therefore, companies should focus on maintaining consistent delivery performance to strengthen customer confidence and encourage repeat usage.



ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Responsiveness [The app informs me in case of delays or issues.]	Between Groups	23.842	4	5.961	10.138	.000
	Within Groups	97.011	165	.588		
	Total	120.853	169			
Responsiveness [The app addresses my complaints quickly.]	Between Groups	12.717	4	3.179	5.702	.000
	Within Groups	91.995	165	.558		
	Total	104.712	169			

Responsiveness [The app informs me in case of delays or issues] The ANOVA result shows a significant difference among the groups with an F-value of 10.138 and a p-value of .000, which is less than 0.01. This indicates that users' opinions significantly differ regarding how well the app informs them about delays or issues.

Responsiveness [The app addresses my complaints quickly] The ANOVA test also reveals a significant difference with an F-value of 5.702 and a p-value of .000. This shows that there is a statistically significant variation in users' perceptions about how quickly the app responds to and resolves their complaints.

The ANOVA results indicate that user perception of responsiveness varies significantly across different groups, suggesting that not all users have the same experience with food delivery apps in terms of communication and issue resolution. Apps that promptly inform users of delays and quickly address complaints are more likely to achieve higher customer satisfaction and loyalty. These findings emphasize the importance of responsiveness as a key dimension of service quality in food delivery platforms. This aligns with previous service quality studies (such as Parasuraman et al., SERVQUAL model), which highlight that effective communication and quick service recovery are crucial in building customer trust and maintaining positive service experiences in the online food delivery industry. In summary, both ANOVA tests confirm that responsiveness-related experiences significantly differ across user groups, highlighting the need for segmented service strategies to improve both transparency and customer care response times.

Conclusion

The study on Sustainability on Your Plate: Service Gap Analysis of Food Delivery Apps among Students in Chennai highlights the growing relevance of sustainability and service quality in the fast-expanding online food delivery sector. The analysis identified notable gaps between customers'



expectations and their actual service experiences, particularly in the dimensions of reliability and responsiveness. While students appreciate the convenience and variety offered by apps like Swiggy and Zomato, they expressed concerns over inconsistent delivery times, limited communication during delays, and inadequate responsiveness to complaints. The correlation results demonstrated a strong positive relationship between reliability and assurance, suggesting that consistent and accurate service builds customer trust and enhances their confidence in digital transactions. Similarly, the ANOVA results confirmed significant differences in users' perceptions of responsiveness, emphasizing the importance of prompt communication and complaint handling in shaping satisfaction levels. Overall, the findings indicate that improving reliability and responsiveness can substantially reduce service quality gaps and strengthen customer loyalty. To move toward sustainability driven service excellence, food delivery platforms should invest in eco-friendly packaging, transparent communication, and AI-driven delivery management systems.

This study reaffirms that sustainable and reliable service practices are not only essential for environmental responsibility but also for maintaining long-term customer satisfaction and competitive advantage. Future research can extend this analysis to other cities or compare perceptions across different customer demographics.

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