Impact on Customer Satisfaction by the E-S-Qual Dimensions of Online Food Delivery Service Industry among Undergraduates

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Abstract

The increasing prevalence of internet usage for purchasing goods and services has catalyzed the emergence of the Online Food Delivery Service (OFDS) industry in Sri Lanka, transitioning consumers from traditional in-store dining to digital platforms. This study investigates customer satisfaction levels among online food purchasers, focusing on the dimensions of E-S-Qual, which include Efficiency, Fulfillment, System Availability, Responsiveness, and Tangibles. Utilizing an explanatory cross-sectional design, the study collected primary data gathered through an online questionnaire distributed to 205 respondents via Cluster Sampling. The data were analyzed using SPSS, confirming the reliability of all five E-S-Qual dimensions. Regression and hypothesis testing revealed that Fulfillment, Responsiveness, and Tangibles significantly impact customer satisfaction, while Efficiency and System Availability do not. Notably, Responsiveness emerged as the most influential factor, whereas Fulfillment had the least impact on customer satisfaction. The findings underscore the importance of enhancing service quality in the OFDS sector to improve customer experiences. The study advocates for further research to explore additional independent variables that may influence customer satisfaction, thereby contributing to the ongoing development of the online food delivery landscape in Sri Lanka.

***Keywords**: Customer satisfaction, E-S-Qual dimensions, Online food delivery service*

1. Introduction

The rapid growth of the internet and wireless technologies has significantly impacted the advancement of online retailing and e-commerce, particularly in the food delivery industry (Saad, 2021). Online meal ordering systems have become an essential component of the modern food industry, helping businesses better serve their consumers and maintain a competitive edge in the market. Online Food Delivery (OFD) service providers can be categorized into two sections: restaurants that provide their own delivery service (e.g., Pizza Hut, McDonald's, Domino's, and KFC) and multi-restaurant intermediaries (e.g., Uber Eats LK, PickMe Food, Eatts Food Delivery, EatMe Global, Savari Food). Online food delivery services benefit restaurants by boosting productivity, effectiveness, and market size (Sjahroeddin, 2020).

Many studies have focused on the service quality aspects of the online food delivery industry, as it is considered the most significant driver for sales that affects both enhancing and diminishing customer satisfaction. Technological advancements in the food delivery industry have opened up fresh waves of consumer demand, providing opportunities for third parties to enter the delivery market as middlemen between customers and restaurants (Muller, 2018). A study conducted with millennials living in Quezon City, Philippines, concluded that the dimensions of service quality influence customer satisfaction in delivery services, with the responsiveness dimension having the biggest influence (Libo-On, 2021). This study aims to examine how E-S-Qual (E-service Quality) factors affect customer satisfaction in the Western province of Sri Lanka.

The research objectives are to:

- Examine the interrelationship between Electronic Service Quality Components (i.e., Efficiency, Fulfillment, System Availability, Responsiveness, and Tangibles) and Customer Satisfaction.
- Identify the impact of Food delivery service provider's Quality on Customer Satisfaction.

This research will be useful for food Delivery service providers in identifying the most significant factors that require attention to enhance service quality and customer satisfaction. It will also benefit E-service businesses in selecting the best Food delivery service provider to deliver their orders, fulfilling the required criteria and factors to provide a quality delivery service and enhance overall customer satisfaction.

2. Literature Review

2.1 Background

The online food transaction market is experiencing significant growth, with projections indicating a continuous annual increase (Triyuni et al., 2021). The practice of ordering food through online

platforms, including websites and mobile applications, has reached advanced levels in many developed nations. However, in Sri Lanka, this trend is still in its developmental stages, as consumers gradually adapt to digital purchasing practices. In this context, maintaining high service quality is essential for the success of online food delivery services.

This explanatory cross-sectional study aims to investigate how customer satisfaction among university undergraduates in Sri Lanka is influenced by the E-S-QUAL dimensions within the food delivery service industry. The primary focus of this research will be on assessing the service quality dimensions related to customer service and delivery service. A review of existing literature reveals a notable gap in understanding the satisfaction levels of Sri Lankan undergraduates, who represent a significant segment of the younger generation in the country. This study seeks to address this gap, providing insights that can be utilized by various stakeholders in the food delivery service industry to identify necessary improvements.

The research will consider the entire transaction process, from placing an order through an e-service platform to the final delivery of food to the customer.

2.2. E-Service Quality (E-S-Qual)

The increasing value of online food transactions is evident, with predictions of continuous growth (Triyuni et al., 2021). While online food ordering is well-established in developed nations, Sri Lanka is gradually adapting to this trend. This study aims to understand how customer satisfaction among university undergraduates is influenced by the E-S-QUAL dimensions within the food delivery service industry.

E-service quality, defined as the effectiveness and efficiency of online platforms for shopping and delivery, is crucial for customer satisfaction (Saad, 2021). E-S-QUAL encompasses a comprehensive evaluation of service quality before and after transactions (Dastane & Selvaraj, 2018). The dimensions of E-S-QUAL include Efficiency, Fulfillment, System Availability, Responsiveness, and Tangibles, which collectively assess the quality of customer service and delivery throughout the online food ordering process.

Research highlights the importance of maintaining high-quality websites and mobile applications to meet customer expectations and foster loyalty (Jeon & Jeong, 2017). Effective e-service requires a focus on various dimensions, including security, reliability, and responsiveness (Perbanas Surabaya, 2018). This study addresses the existing gap in literature regarding the satisfaction levels of Sri Lankan undergraduates, aiming to provide insights for stakeholders in the food delivery service sector to enhance service quality and customer satisfaction.

2.2.1. Efficiency

Efficiency is a critical aspect for any service-oriented business, as it significantly impacts both staff performance and customer satisfaction (Zemblytė, 2015). According to Ali et al. (2021), creating an optimal route that meets all operational needs is essential for successful business management. Kalia (2013) defines efficiency as the ease with which customers can navigate a website, locate desired products, and complete payment processes. Generally, customers opt for online ordering services due to their convenience, speed, and accuracy, which are contingent upon the implementation of appropriate technologies and processes.

In the realm of e-commerce, efficiency is paramount, as it is often cited as a primary motivation for online business transactions (Ghosh, 2018). In food delivery services, efficiency must be maintained not only during the order-taking process but also throughout the delivery execution (Thamaraiselvan et al., 2019; Uzir et al., 2021). Belanche Gracia et al. (2015) emphasize that efficiency encompasses how quickly and easily a website can be accessed and utilized. Implementing efficient online food delivery services can enhance market growth and operational efficiency (Sjahroeddin, 2020). The practice of bundling deliveries—where a single delivery personnel carries multiple ordered packages in one trip—can further improve delivery efficiency and mitigate the effects of unforeseen supply and demand fluctuations (Zhu et al., 2020). Regular assessments of service quality aspects, including efficiency and assurance, are necessary to identify areas for improvement.

Hypothesis 1: There is a significant impact of efficiency dimension of food delivery service on customer satisfaction.

2.2.2. Fulfillment

Fulfillment is a key criterion for evaluating the quality of online services, as it encompasses the ability to meet service commitments and accurately process orders, which directly influences customer satisfaction (Suhartanto et al., 2019). Uzir et al. (2021) define fulfillment as the capacity to provide services as requested by customers. Ensuring timely, undamaged delivery and addressing any issues that arise during the fulfillment process are critical components of high-quality customer service (Zeithaml et al., 2012).

Sukasame (2014) further elaborates that fulfillment includes the accuracy of order processing and prompt delivery. Reliability in e-service transactions is evident from the point of order placement to the final delivery (Zeithaml et al., 2012). The quality of fulfillment can be assessed based on the condition of the delivered goods and the delivery wait time, with well-packaged, undamaged

products being essential to customer satisfaction (Yen, 2022). Additionally, effective fulfillment is supported by maintaining functional websites and applications that facilitate order placement (Yen, 2022). Trust is a fundamental principle in business relationships, as it is established when customers receive their orders as expected (Uzir et al., 2021).

Hypothesis 2: There is a significant impact of fulfillment dimension of food delivery service on customer satisfaction.

2.2.3. System Availability

The integration of food delivery services through websites and digital applications represents a rapidly growing trend in the e-commerce sector. Consumers now have the flexibility to select from a diverse array of cuisines offered by various food suppliers at any time and from any location (Thamaraiselvan et al., 2019). System availability is crucial in e-service platforms, as it ensures that customers can consistently access online services, thereby enhancing their perception of the businesses involved (Nemati et al., 2012). Zeithaml et al. (2012) define system availability as the technical operation of a site, specifically its accessibility and functionality. Sukasame (2014) further elaborates that system availability encompasses the ability to provide reliable services through websites or applications, facilitating accurate order placement and prompt responses to customer inquiries, as well as ensuring secure online payment and billing capabilities.

A well-functioning website or application is essential for delivering a recognizable standard of customer service in the e-service domain. Initial customer confidence is often established through their experience with the website, and a site that meets system availability criteria can significantly influence customer perceptions and encourage online purchases (Li et al., 2009). Furthermore, the seamless operation of a website, free from technical failures, is vital for maintaining privacy during transactions. According to Chai et al. (2019), the security of customer information is a critical component of e-service quality, as customers are increasingly concerned about the risks associated with sharing personal and financial data online. Therefore, e-services must assure customers of their commitment to system availability and privacy standards through their websites and applications (Puranda et al., 2022).

Hypothesis 3: There is a significant impact of system availability dimension of food delivery service on customer satisfaction.

2.2.4. Responsiveness

Responsiveness, as defined by Reis and Clark (2013), refers to the extent to which transaction parties perceive and act upon each other's needs and desires. This dimension emphasizes the importance of understanding and supporting one another in fulfilling personal goals and needs. In the context of

online service provision, the speed with which a provider responds to customer demands is a key determinant of customer service quality (Balinado et al., 2021). Effective customer service transcends merely answering inquiries; it involves recognizing and addressing individual customer needs (Rajendran & Wahab, 2018).

Responsiveness can be evaluated both at the level of the food supplier and the delivery provider, particularly when these functions are fulfilled by separate entities. Tinggi Ilmu Ekonomi Sabang et al. (2018) note that responsiveness in product delivery is assessed by the delivery service provider's willingness to meet customer needs and the promptness with which it addresses inquiries. The timeliness of responses and the accuracy of information provided are critical indicators of responsiveness (Su SAN & Dastane, 2021). Essentially, responsiveness involves delivering the required information or products to customers as swiftly as possible (Kitsikoglou et al., 2014). Therefore, it is advantageous for both food suppliers and delivery service providers to possess the capability and commitment to assist customers effectively, ensuring timely service delivery.

Hypothesis 4: There is a significant impact of responsiveness dimension of food delivery service on customer satisfaction.

2.2.5. Tangibles

Tangibles refer to the visible aspects of service delivery that significantly influence customer perceptions and satisfaction (Suhartanto et al., 2019). Kimes (2011) describes tangibles as encompassing all elements of a customer's visual experience with a service provider, including equipment, staff, facilities, products, and overall appearance (Lee & Lin, 2005). These tangible elements contribute to the lasting impressions customers form about a service provider, as they can evoke memorable associations based on the quality of the equipment used and the appearance of the personnel (Balinado et al., 2021).

Physical evidence of service is categorized into several general types, such as physical facilities, personnel appearance, instruments or equipment utilized, and physical representations of the service (Kumar Panda, 2014). To optimize resource utilization, management must understand customer expectations regarding these tangible aspects, as evidence suggests that appearance significantly affects customer satisfaction (Barber & Scarcelli, 2010). In the food service context, factors such as cleanliness and the appearance of employees and delivery equipment are particularly important (Barber & Scarcelli, 2010).

While e-services inherently possess more intangible qualities, maintaining a focus on tangible aspects can enhance overall customer satisfaction (Fakfare, 2021). Santos (2012) posits that customer expectations are shaped by their interactions with tangible elements, which inform their inferences

about the service quality. In delivery transactions, both the appearance of service personnel and the functionality of equipment, such as point-of-sale terminals, are critical for ensuring accurate and stress-free customer experiences during payment (Duman, 2015; Roux & de Jager, 2012). Overall, tangibles serve as visible indicators of service excellence, playing a crucial role in the service product, even though they do not constitute the complete end product themselves (Santos, 2012). Their effective management is essential for providing high-quality service and fostering positive customer experiences.

Hypothesis 5: There is a significant impact of tangible dimension of food delivery service on customer satisfaction.

2.3. Customer Satisfaction

Customer satisfaction is defined as the emotional state experienced by individuals whose needs have been met (Gajewska et al., 2020). It assesses the extent to which customers are pleased with a company's products, services, and overall functionality (Libo-On, 2021). A pivotal factor influencing repeat purchasing behavior, customer satisfaction is fundamentally determined by the discrepancy between customer expectations and the actual service received (Demyana Nathan, 2014; Rajendran & Wahab, 2018). In the context of food delivery services, customer satisfaction is influenced by various aspects, including food taste, pricing, packaging, and delivery convenience (Cha et al., 2021).

The fulfillment of customer requirements is affected by multiple criteria that impact service delivery (YuSheng & Ibrahim, 2019). A sustainable relationship between e-customers and e-businesses hinges on the quality of services provided throughout the transaction process, ultimately leading to customer satisfaction (Miao et al., 2021). Remenyi (2007) outlines that e-service transactions consist of three main stages: pre-transaction, transaction, and post-transaction. Customer satisfaction is achieved when all stages meet the necessary requirements. During the pre-transaction stage, customers seek information about e-service offerings, including prices, service provider reputation, payment options, and delivery times. The quality of information and service efficiency at this stage significantly influences customer satisfaction (Remenyi, 2007). The transaction stage involves negotiating terms and completing the transaction, where factors such as system access, efficiency, and delivery time are critical for perceived service quality (Yousif, 2015). The delivery stage is crucial for customer satisfaction, as delays can lead to negative experiences (Rajamohan Parthasarathy et al., 2021).

Delivery service providers play a vital role in enhancing customer satisfaction by ensuring high-quality services (Rivera, 2019). Food delivery can be executed by the food supplier or by separate delivery services (Chai et al., 2019). Understanding customer expectations is essential for businesses to provide exceptional service, as effective customer service leads to higher satisfaction levels (Gajewska et al., 2020).

It is important to differentiate between service quality and customer satisfaction; while service quality is a contributing factor, customer satisfaction is the outcome (Sjahroeddin, 2020). Research indicates that customer satisfaction significantly influences repurchase intentions, with satisfied customers likely to engage in positive word-of-mouth, thereby attracting new customers and fostering long-term business success (Libo-On, 2021). Measuring customer satisfaction is crucial for organizations, as it reflects their operational effectiveness and the degree of achievement in meeting customer needs (Ok et al., 2018). Overall, the quality of customer service is a critical determinant of customer satisfaction in e-service transactions.

2.4. Food Delivery Service Provider

In a typical online food delivery system, third-party delivery companies are contracted by restaurants to distribute their goods and services through digital platforms that facilitate online sales, communication, and coordination among various stakeholders (Jiang et al., 2021). Delivery personnel face numerous challenges, such as navigating traffic, using stairs and elevators, knocking on doors, and obtaining customer signatures, which can be time-consuming and physically demanding. Delivery delays exceeding the standard one-hour window, regardless of road or weather conditions, can negatively impact customer satisfaction (Zulkarnain Kedah et al., 2015).

Most delivery service providers must collect and distribute a large number of parcels daily (Chen et al., 2018). As a delivery personnel, one must be prepared to act as an accurate and committed member of the delivery team to ensure that items are properly packaged, securely delivered to the correct customer, and the job tasks are completed on time. To provide successful delivery services, personnel should be courteous, dedicated to providing a superior customer experience, and enthusiastic about delivering orders accurately, working safely, and making customers happy.

Online food delivery services are rapidly expanding into new markets and transforming consumer eating habits. As an intermediary between customers and restaurants, online food delivery service providers assist restaurants by managing distribution logistics (Rivera, 2019). The current lifestyle, with both parents working, makes it challenging for households to cook regular meals. Dining out is also not feasible due to limited time and hectic work schedules. In such situations, online food ordering satisfies the needs of busy urban residents by delivering food within a short period (Zulkarnain Kedah et al., 2015). Food delivery services were a blessing during lockdown periods, bringing food to people's doorsteps when they were confined to their homes.

While food delivery services are considered a savior, it is crucial to note that the delivery provider is the party responsible for fulfilling customers' basic need for food accurately by maintaining the link between the restaurant/food supplier and the customer. When acting as an intermediary in an online order fulfillment transaction, delivery time and safe delivery adhering to standards are the most

crucial factors impacting customer satisfaction. Functional advantages, such as anticipated performance and perceived product and service quality, are essential (Hwang & Kim, 2021). Having a high-quality delivery provider benefits restaurants by performing the delivery task as expected, leading to positive customer growth and enabling customers to perceive both good quality food and accurate service.

Food delivery operations can be carried out by the food supplier or a third-party delivery service provider. Delivery becomes particularly important in online retailing, where there is a separation between order placement and merchandise delivery (Zulkarnain Kedah et al., 2015). This is where the food supplier loses control over maintaining delivery service standards. The food supplier should carefully select the delivery provider, as the delivery provider's quality impacts the food supplier's image, even though it is not under the food supplier's control. Simultaneously, it is the delivery provider's responsibility to maintain delivery standards to ensure customers are satisfied with their online food ordering experience.

In the e-service platform, customer happiness and satisfaction heavily depend on delivery time, which is under the control of the delivery service provider. Customers' experiences and satisfaction with online food delivery are influenced by various factors, including food availability, customer ratings, payment options, and human interactions. Order fulfillment variables, particularly on-time delivery, significantly impact overall customer evaluations and satisfaction (Roy Dholakia & Zhao, 2010). Food delivery service providers are now considered a crucial party in successful online food ordering transactions.

3. Methodology

3.1. Research Design

In the context of e-service transactions, customer service and the delivery service providers significantly influence customer satisfaction in the food delivery industry. The rising usage of e-service platforms, particularly among the younger generation in Sri Lanka, indicates a shift towards developing e-commerce shopping habits. This research adopts a deductive approach, utilizing a set of developed hypotheses related to five service quality factors impacting customer satisfaction. The study will be conducted as a cross-sectional study, collecting data at a single point in time.

This study employs a quantitative approach to assess the impact of E-S-QUAL factors on customer satisfaction in food delivery services. Data collection was facilitated through a structured questionnaire, divided into two sections: demographic information (age, gender, education level, and monthly income) and questions pertaining to the E-S-QUAL dimensions, measured using a 5-point Likert scale (ranging from "Very Satisfied" to "Very Dissatisfied"). A screening question was

included to ensure that only respondents who had utilized online food delivery services were included in the study.

This study focuses on undergraduates in Sri Lanka as the research population.

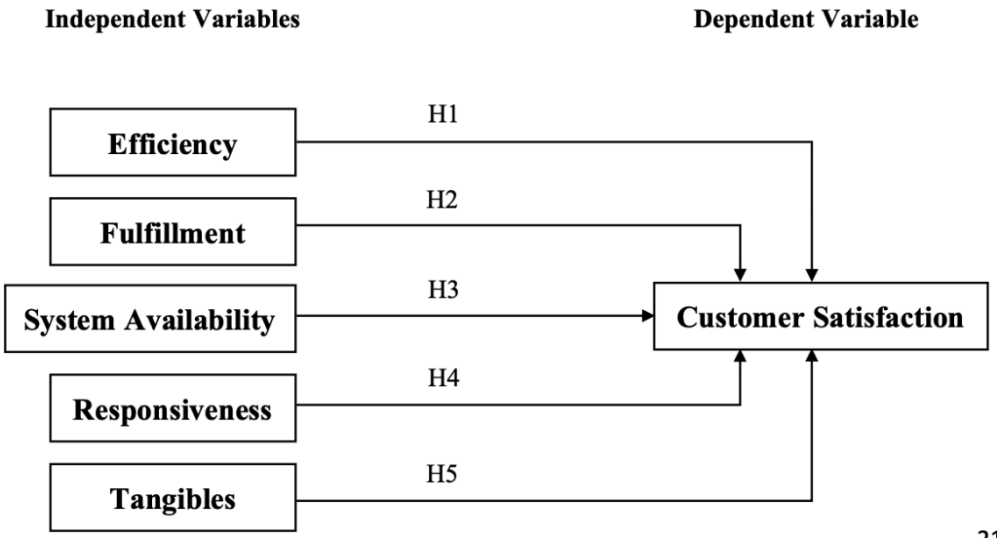
A cluster sampling method was employed, targeting undergraduates from various provinces, with a particular emphasis on the Western province due to its higher engagement with food delivery services and greater proficiency in using electronic devices and the internet. The sample size was limited to 205 respondents, reflecting the accessibility and interest of the younger generation in this region

3.2. Data Collection and Analysis Method

The data for this research was collected through an online survey using a structured questionnaire designed to gather accurate information from the targeted sample. The questionnaire utilized a 5-point Likert scale to facilitate responses. Utilizing an explanatory cross-sectional design, the study collected primary data gathered through an online questionnaire distributed to 205 respondents via Cluster Sampling.

This study employed a quantitative approach to assess the impact of E-S-QUAL dimensions on customer satisfaction among university undergraduates. The IBM SPSS statistical software package was utilized to check data validity and reliability and examine relationships. Correlation analysis and regression analysis were used to identify relationships.

3.3. Conceptual Framework



4. Data Analysis and Findings

4.1. Reliability Analysis

Cronbach's alpha is the most widely utilized metric for measuring internal consistency (Heale & Twycross, 2015). This study employs Cronbach's alpha test to check the reliability of the data gathered for each variable. An acceptable reliability score is typically indicated by a Cronbach's alpha value greater than 0.7, suggesting that the items in the scale are sufficiently correlated to warrant their use as a composite measure.

Table 1: Summary of the Reliability Analysis

The Variable	Cronbach's Alpha	Reliability	Conclusion
Efficiency	0.822	0.822 > 0.7	Reliable
Fulfillment	0.893	0.893 > 0.7	Reliable
System Availability	0.821	0.821 > 0.7	Reliable
Responsiveness	0.850	0.850 > 0.7	Reliable
Tangibles	0.889	0.889 > 0.7	Reliable
Customer Satisfaction	0.892	0.892 > 0.7	Reliable

Table 1 presents a summary of the reliability analysis conducted for various variables related to the study, including Efficiency, Fulfillment, System Availability, Responsiveness, Tangibles, and Customer Satisfaction. The results indicate that all variables achieved Cronbach's alpha values exceeding the threshold of 0.7, confirming their reliability. Notably, Fulfillment emerged as the most reliable variable with a Cronbach's alpha of 0.893, while System Availability, with a value of 0.821, was identified as the least consistent variable within the study. In conclusion, the reliability analysis demonstrates that all variables associated with this study exhibit consistent and stable results, thereby reinforcing the validity of the measures employed in assessing customer satisfaction in the context of food delivery services.

4.2. Correlation Analysis

Correlation analysis is a statistical method employed to assess the relationship or association between two or more quantitative variables (Gogtay & Thatte, 2017). In this study, the Pearson correlation matrix was employed to interpret the relationships between variables.

Table 2: Summary of Correlation Analysis

Dependent Variable	Independent Variable	Pearson Correlation	Significance
Customer Satisfaction	Efficiency	0.611	<0.05
	Fulfillment	0.677	<0.05
	System Availability	0.616	<0.05
	Responsiveness	0.730	<0.05
	Tangibles	0.715	<0.05

The results presented in Table 02 indicate a moderately positive relationship (61.1%) between Efficiency and Customer Satisfaction. This suggests that as Efficiency increases, Customer Satisfaction also tends to increase. Furthermore, the significance value of less than 0.05 confirms a statistically significant relationship between these two variables. And there is a moderately positive relationship (67.7%) between Fulfillment and Customer Satisfaction. This indicates that improvements in Fulfillment are associated with increased Customer Satisfaction, with a significance value below 0.05 confirming the relationship's statistical significance. Further, the results reveal a moderately positive relationship (61.6%) between System Availability and Customer Satisfaction, indicating that enhanced System Availability correlates with increased Customer Satisfaction. The significance value of less than 0.05 further supports the existence of a significant relationship. And there is a strongly positive relationship (73.0%) between Responsiveness and Customer Satisfaction. This suggests that as Responsiveness improves, Customer Satisfaction also increases, with a significance value below 0.05 indicating a significant relationship. Moreover, there is a strongly positive relationship (71.5%) between Tangibles and Customer Satisfaction. This indicates that improvements in Tangibles are associated with increased Customer Satisfaction, with a significance value below 0.05 confirming the significance of this relationship.

In summary, the correlation analysis reveals that all examined variables—Efficiency, Fulfillment, System Availability, Responsiveness, and Tangibles—exhibit positive relationships with Customer Satisfaction, indicating that enhancements in these areas are likely to lead to increased satisfaction among customers in the food delivery service context.

4.3. Regression Analysis

Multiple linear regression is employed to interpret the relationships between independent variables and the dependent variable. The summary of the regression analysis is presented in the table below.

Table 3: Model Summary

R Square	**Adjusted R Square**	**Model Significance**
0.646	0.635	0.000

At the outset of this analysis, the ANOVA table indicates a model significance (P value) of 0.000, which is less than the alpha level of 0.05. Consequently, we reject the null hypothesis (H0), providing sufficient evidence to affirm that the regression model is statistically significant. In this study, the R^2 value is 0.646, indicating that approximately 64.6% of the variance in customer satisfaction can be explained by the independent variables included in the model. This suggests that the model is a good fit for the data. The Adjusted R^2 value, which accounts for the number of predictors in the model, is 0.635. This implies that adding additional predictors may not significantly enhance the model's predictive power. Although the Adjusted R^2 value exceeds the threshold of 0.5, indicating an acceptable model fit, it also suggests that there is room for improvement in future research endeavors.

Table 4: Regression Table

Variable	**Coefficient**	**P - Value**
Efficiency	- 0.036	0.679
Fulfillment	0.491	0.000
System Availability	0.056	0.446
Responsiveness	0.640	0.000
Tangibles	0.524	0.000

The results displayed in Table 04 indicate that the significance (P-value) for Efficiency is greater than 0.05 (0.679 > 0.05), leading to the conclusion that the null hypothesis (H0) is not rejected. There is no significant relationship between efficiency and customer satisfaction. Similarly, for System Availability, the P-value is greater than 0.05 (0.446 > 0.05), leading to the conclusion that the null hypothesis is not rejected. There is no significant relationship between system availability and customer satisfaction. Conversely, the significance (P-value) for Fulfillment is less than 0.05 (0.000 < 0.05), resulting in the rejection of the null hypothesis and acceptance of the alternative hypothesis (H1). The beta coefficient for Fulfillment is 0.491, indicating a 49.1% positive impact on customer

satisfaction. For Responsiveness, the P-value is less than 0.05 (0.000 < 0.05), allowing for the rejection of the null hypothesis and acceptance of the alternative hypothesis. The beta coefficient is 0.640, indicating a 64.0% positive impact on customer satisfaction.Lastly, the significance (P-value) for Tangibles is also less than 0.05 (0.000 < 0.05), resulting in the rejection of the null hypothesis and acceptance of the alternative hypothesis. The beta coefficient for Tangibles is 0.524, suggesting a 52.4% positive impact on customer satisfaction.

5. Discussions and Conclusions

The findings of this study provide valuable insights into the relationships between various service quality dimensions and customer satisfaction within the online food delivery industry. The reliability analysis confirmed that all variables, including Efficiency, Fulfillment, System Availability, Responsiveness, and Tangibles, exhibit strong internal consistency, as evidenced by Cronbach's alpha values exceeding the acceptable threshold of 0.7 (Heale & Twycross, 2015). Notably, Fulfillment emerged as the most reliable variable, with a Cronbach’s alpha of 0.893, reinforcing its significance in evaluating customer satisfaction.

Correlation analysis revealed positive relationships between all examined variables and customer satisfaction. Specifically, Responsiveness demonstrated the strongest correlation (0.730), indicating that improvements in responsiveness are likely to lead to higher customer satisfaction levels. This finding aligns with existing literature that emphasizes the importance of timely and effective communication in enhancing customer experiences (Reis & Clark, 2013; Balinado et al., 2021). Fulfillment also exhibited a significant positive correlation (0.677) with customer satisfaction, highlighting the critical role of meeting service commitments and accurately processing orders in influencing customer perceptions (Suhartanto et al., 2019).

The multiple linear regression analysis further elucidated these relationships. While Efficiency and System Availability did not show statistically significant impacts on customer satisfaction, Fulfillment, Responsiveness, and Tangibles were found to have significant positive effects. The beta coefficients indicated that Fulfillment has a 49.1% impact, Responsiveness a 64.0% impact, and Tangibles a 52.4% impact on customer satisfaction. These results suggest that enhancing service quality in these areas is essential for improving customer satisfaction within the food delivery service context.

The lack of significant relationships for Efficiency and System Availability may suggest that while these factors are important, they do not independently drive customer satisfaction. Instead, they may serve as foundational elements that support the more impactful dimensions of Fulfillment,

Responsiveness, and Tangibles. This finding is consistent with previous research that highlights the complexity of customer satisfaction, where multiple interrelated factors contribute to overall perceptions (Ghosh, 2018; Zemblytė, 2015).

In conclusion, this study underscores the importance of focusing on specific service quality dimensions to enhance customer satisfaction in the online food delivery industry. The findings suggest that businesses should prioritize improving Fulfillment, Responsiveness, and Tangibles to foster positive customer experiences. Future research could explore additional variables or contextual factors that may further influence customer satisfaction, as well as investigate the long-term effects of service quality improvements on customer loyalty and retention. By addressing these areas, food delivery service providers can better align their offerings with customer expectations, ultimately leading to enhanced satisfaction and business success.

6. Recommendations

Based on the findings of this study, which indicate that Fulfillment, Responsiveness, and Tangibles significantly impact customer satisfaction in the online food delivery industry, several recommendations can be made for future development. The analysis revealed notable concerns among customers regarding specific criteria related to these variables. For instance, respondents expressed dissatisfaction with statements such as “Online food delivery sites provide me with required information,” “Food delivery company replies to requests,” and “Delivery personnel use relevant modern-looking tools and machines.”

To address these concerns, it is imperative for online food delivery service providers to invest in technological advancements and improvements in service delivery. First and foremost, businesses should ensure that their websites and applications are regularly updated with accurate and comprehensive information. This includes providing clear details about menu items, pricing, delivery times, and any other relevant information that can enhance the customer experience (Kitsikoglou et al., 2014). Additionally, establishing a robust customer service framework that enables timely responses to customer inquiries and concerns is essential. This can be achieved through multiple channels, including live chat on websites, dedicated customer service hotlines, and responsive social media engagement.

Furthermore, the study highlighted the need for delivery personnel to utilize modern tools and technology. By equipping delivery staff with the latest technology, such as GPS navigation systems and mobile payment solutions, companies can improve the efficiency and reliability of their service. This not only enhances the delivery experience but also aligns with the expectations of a tech-savvy customer base that values convenience and efficiency (Zemblytė, 2015).

The findings of this study also serve as a foundational resource for managers and owners of online food delivery services to enhance their service quality. Recognizing that service quality significantly influences customer satisfaction, it is crucial for providers to identify and address the factors affecting service quality throughout the entire customer journey—from order placement to final delivery. This holistic approach will not only improve customer satisfaction but also foster customer loyalty and retention.

Lastly, these recommendations are applicable not only to established businesses but also to new entrants and startups in the online food delivery sector. By adhering to these guidelines, new businesses can establish a strong foundation and competitive advantage in the industry. The presence of competition drives innovation and improvement, ultimately benefiting consumers through enhanced service quality and customer satisfaction.

In conclusion, by focusing on the key areas of Fulfillment, Responsiveness, and Tangibles, online food delivery service providers can significantly enhance customer satisfaction, attract new customers, and retain existing ones. Implementing these recommendations will not only improve service quality but also contribute to the overall growth and sustainability of the online food delivery industry.

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