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From clicks to doorstep: Exploring service quality and stakeholder challenges in the online food delivery supply chain

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ABSTRACT

The rapid expansion of digital platforms has significantly transformed the food delivery sector in recent years. This growth has resulted in numerous benefits, such as increased convenience for consumers and new business opportunities for restaurants. However, as the food delivery industry continues to evolve, various stakeholders including delivery providers, restaurants, and customers face considerable challenges in ensuring efficiency, reliability, and overall satisfaction throughout the supply chain. The objectives of this study are two-fold: (1) to assess how customers perceive the service quality and customer support of online food delivery platforms based on reviews from the past year, and (2) to investigate the challenges faced by online food delivery providers, restaurants, and customers. The study included a sample of 16 stakeholders, comprising customers, restaurant owners, and delivery riders, selected through purposive sampling. A qualitative research approach was employed, utilising in-depth interviews to gather data and gain a comprehensive understanding of the stakeholders' perspectives, experiences, and complaints. Data analysis was conducted using the NVivo 12 software. The challenges identified are categorised into four themes: technology and communication apps, time pressure, service quality, and competitive dynamics. The study suggests that the challenges faced by online food delivery services can be addressed and improved through cooperation and communication among stakeholders. By tackling these challenges and leveraging available opportunities, benefits can be extended to all stakeholders, including online food delivery providers, restaurants, customers, and the broader food and logistics industries. This research offers valuable insights into the dynamics of the online food delivery supply chain and provides practical recommendations for fostering a more efficient and customer-centric system. By promoting mutual cooperation among stakeholders, the industry can achieve sustainable growth and improved service quality, ultimately enhancing the overall experience for everyone involved.

Keywords: ***Online food delivery, supply chain, challenges, service quality, stakeholders***

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INTRODUCTION

The online food delivery services supply chain is experiencing significant growth in Southeast Asia during this new era of a multifaceted transformation driven by technological advances, shifts in consumer behaviour post-pandemic, and evolving socio-political contexts (Statista, 2024). Technology has emerged as a significant factor behind the rise of online food delivery services, providing convenience to consumers to relish their meals at home while offering new revenue streams to restaurants and creating job opportunities for food riders.

The food industry is one of the rapidly expanding markets, and many retailers are now providing additional online services, such as online food delivery, to cater to their customers. According to Ageron et al. (2020), more than 90% of internet users have used online purchases, and about 40% of businesses have employed advanced big data analytics technologies.

Online food delivery services have emerged as a significant trend in the food and service industry, where customers can order food from restaurants or third-party logistics platforms through a website or mobile app. Many restaurants have now collaborated with third-party platforms like Food Panda, GrabFood, DeliverEat, Running Man Delivery, and FoodTime to expand their business and delivery capabilities across all their stores throughout the day, as observed by Li et al. (2020). The food industry, in particular, has embraced this idea enthusiastically, given food delivery applications is gaining popularity among Malaysian customers. These services provide convenience by making meal access easier for individuals with limited time to eat outside.

However, to sustain their business and retain their consumer base, online food delivery services must continuously enhance their service quality, streamline operational efficiency, and foster strong support from stakeholders. This is especially critical given that many stakeholders, including restaurant partners, delivery riders, and customers, face various challenges, such as fluctuating demand, increasing competition, and logistical hurdles. Additionally, young consumers' attitudes and purchasing behaviours regarding food products are evolving in the current millennium.

Online food delivery services have become popular due to their convenience, yet they continue to face persistent operational challenges that impact customer satisfaction. Common issues include late deliveries, order mix-ups, and poor communication with customers (Rawat, 2024). Food riders also face difficulties due to a lack of training and benefits. These problems not only affect service quality but also contribute to a growing number of negative reviews and customer complaints. Thus, online food delivery services must improve their systems, collaborate with restaurants, and train food riders to improve their delivery services and meet customers' expectations.

There is considerable existing research on online food delivery that focuses on customer satisfaction, including studies by Azman et al. (2021), Srichroen et al. (2024), and Shamsuddin et al. (2023). However, these studies are mainly quantitative and lack in-depth, contextual analysis, which is necessary to fully comprehend the complex challenges and lived experiences of the various stakeholders involved. To address these research gaps, this study adopted a comprehensive, multi-stakeholder approach, incorporating the perspectives of customers, restaurant owners, and delivery riders. By triangulating their viewpoints, the study aims to provide a deeper understanding of the operational

challenges faced in the food delivery supply chain. Therefore, this study aims to investigate the challenges faced by online food delivery providers and customers, evaluate the quality of food delivery services from both perspectives and propose opportunities for improving the online food delivery supply chain.

The study seeks to answer two main research questions (RQs) based on the previously discussed research background and problem statement. RQ1: How do customers perceive the online food delivery platform service quality and customer service based on insights from platform reviews over the past year? RQ2: What challenges do customers, business owners, and drivers face in using online food delivery platforms?

LITERATURE REVIEW

Online food delivery service

Online food delivery services have transformed how consumers access meals by integrating digital platforms with restaurant and logistics networks. These services, often delivered via mobile apps or websites, allow users to browse menus, place orders, and have food delivered to their doorsteps without face-to-face interaction (Dazmin & Ho, 2019; Ray et al., 2019). As a form of self-service technology, they represent a shift toward more autonomous and convenience-driven consumption (Pigatto et al., 2017). These platforms operate by facilitating real-time transactions between consumers, food providers, and delivery personnel, creating a digitally coordinated supply chain (Li et al., 2020). Understanding how these systems function is essential for assessing the service quality and challenges faced by all stakeholders involved, which is the focus of this study.

Convenience

Convenience has emerged as a key reason for the growing popularity of online food delivery services, particularly among working individuals managing busy lifestyles. Researchers have noted that the ability to avoid travel, long queues, and parking difficulties makes these services especially appealing (Das & Ghose, 2019; Salman et al., 2018). As digital platforms become more user-friendly and efficient, many consumers now prefer to order food online as a way to save time and reduce effort (Chai & Yat, 2019). The convenience factor is also linked to features such as easy price and menu comparisons, flexible payment methods, and simplified interfaces, which help users make quicker and more informed decisions (Prabowo & Nugroho, 2019; Rathore & Chaudhary, 2018).

The challenges of online food delivery services

Online food delivery services in Malaysia continue to grow in popularity, but they also face complex challenges involving multiple stakeholders, including third-party platforms, restaurants, consumers, and delivery riders (Chern & Ahmad, 2020). Key issues such as maintaining food quality, managing delivery during peak hours, and ensuring timeliness have been well-documented. While previous studies have acknowledged the logistical and coordination difficulties in such multi-actor systems (Chern & Ahmad, 2020; Saad, 2021), most studies have centred primarily on customer-facing outcomes. There remains limited exploration of how these operational challenges are experienced across the supply chain, particularly by restaurant partners and delivery riders.

Delivery timing

Service delivery requires time, and consumers value saving time in both online and offline shops (Vasic et al., 2019). While several studies (Md Rahim & Mohd Yunus, 2021; Vasic et al., 2019) emphasise the importance of on-time delivery, limited attention has been given to how delivery delays affect different stakeholders, particularly food delivery riders and restaurant partners within the supply chain. However, unforeseen events like Malaysian Movement Control Orders (MCOs) might delay food delivery. This gap highlights the need for a multi-stakeholder investigation, such as the one undertaken in this study.

Consumer satisfaction

E-commerce and online food delivery services have become increasingly popular, allowing customers to make purchases at any time and from anywhere using their mobile devices. Online food delivery services, which allow personalised menus or preferred menus, can reduce information overload and improve customer satisfaction (Deepak et al., 2020). While prior studies highlight the importance of meeting customer needs to ensure loyalty and business growth (Chotigo & Kadono, 2021), less attention has been given to the challenges faced by service providers and restaurants in fulfilling these expectations. The complexity of maintaining satisfaction lies not only in the customer-facing elements such as app functionality and food availability but also in the coordination between platforms, restaurants, and delivery riders. This study addresses this gap by exploring how satisfaction is shaped by both front-end user experience and back-end operational processes from a multi-stakeholder perspective.

Online delivery services platform

Food delivery services have evolved into restaurant-to-consumer delivery and platform-to-consumer delivery. The traditional delivery category is where food order aggregators take orders from consumers, route them to the restaurant, and handle the delivery process. In contrast, the latter is a new delivery trend in which platforms establish their own logistics network and partner with restaurants to provide delivery services, alleviating restaurants of delivery-related logistical concerns. Participating in third-party delivery platforms offers several benefits for restaurants, including new income and less/no worry about space or headcount. However, partnering with third-party platforms can also improve customer satisfaction by providing a broader range of options for customers to choose from and the convenience of having a single app for ordering food from various restaurants (Li et al., 2020).

Logistics

Logistics plays a crucial role in shaping both customer satisfaction and operational efficiency in online food delivery. While third-party platforms help restaurants cut internal costs, they also introduce coordination challenges. Real-time tracking has improved user experience (Saad, 2021), yet issues like rider shortages, traffic, and miscommunication still disrupt service quality (Chern & Ahmad, 2020). Past studies often focus on the customer side, overlooking how these logistics issues affect riders and restaurants—such as tight delivery windows and erratic pick-up times. This study addresses that gap by examining logistical challenges from multiple stakeholder perspectives, offering a more holistic view of service performance in the food delivery ecosystem.

Food delivery service quality

Service quality is crucial in online food delivery services, affecting consumer satisfaction and loyalty toward the service provider. Researchers have consistently identified key factors influencing perceived service quality, including menu variety, freshness, presentation, and food temperature (Namkung & Jang, 2007). Many studies employ the SERVQUAL model to assess the gap between customer expectations and actual service performance, focusing on dimensions such as reliability, responsiveness, assurance, empathy, and tangibles. Findings by Banerjee et al. (2019), for instance, reveal that service quality is perceived as lacking across all dimensions, underscoring the need for significant improvements. While these frameworks offer valuable insight into customer perceptions, much of the literature focuses narrowly on consumer views, with limited attention to how service quality is shaped and constrained by the experiences of other stakeholders, such as restaurant partners and delivery riders. Thus, this study offers a more holistic perspective on performance in the food delivery ecosystem.

METHODOLOGY

"Foodie-Fly" (a pseudonym) was chosen for this study because of its strong presence in Malaysia's online food delivery market. With a large user base and wide reach, it offers a useful lens for examining service quality. Despite its popularity, users have raised concerns about delayed updates, poor order tracking, and unhelpful support. These issues risk damaging its reputation in a highly competitive market. By comparing "Foodie-Fly" with other platforms, this study highlights service gaps and offers practical suggestions to improve customer experience not just for "Foodie-Fly," but for the industry as a whole.

To address RQ1, 74 social media reviews were analysed from the "Foodie-Fly" Facebook page to understand customer feedback. The platform was chosen due to its popularity in both rural and urban areas. Negative feedback offered valuable insights into the challenges customers encounter when using the service. This information was used to interpret the findings of the study and develop insights. To address RQ2, the study employed purposive sampling, which involves selecting participants who fit a specific category and can provide the desired information.

A total of 16 individuals were selected, comprising 10 regular customers, 3 restaurant partners, and 3 food delivery drivers. This sample size was deemed sufficient for achieving thematic saturation. This study determined thematic saturation was achieved after the 16th interview, when no new themes, codes, or patterns emerged from subsequent interviews. This approach aligns with the recommendations of Guest et al. (2006), who suggested that saturation often occurs within 12 to 16 interviews, particularly when participants share relatively similar experiences. Additionally, Braun and Clarke (2013) noted that thematic saturation is reached when further data fails to provide additional analytical value.

Customers who used the platform at least three times a week were chosen for their frequent engagement. Restaurant partners and riders with over a year of experience with "Foodie-Fly" shared practical insights into daily challenges. Each 30-minute interview was conducted with consent, transcribed, and manually coded. NVivo 12 supported the organisation and refinement of emerging themes.

RESULTS AND DISCUSSION

Food delivery service quality and customer service from the customer's perspective

To address RQ1, a content analysis was conducted on 74 reviews from social media platforms, specifically from the "Foodie-Fly" Facebook Page, covering the period from January 1, 2021, to November 30, 2021. Each customer review regarding service quality at "Foodie-Fly" was evaluated based on related contexts, including customer service and overall service quality. A descriptive analysis was done and found that a total of 28 customers reviewed and expressed their negative feedback related to customer services from "Foodie-Fly". Customer service (CS) included three measurements, namely "CS 1a: Lack of training and knowledge of the staff", "CS 1b: The issue of a refund" and "CS 1c: Comparison with other online food delivery apps".

Table 1. Customer service measurement and service quality from "Foodie-Fly"

Customer Service Measurement	**Frequency**	**Percentage (%)**
CS 1a: Lack of training and knowledge of the staff	11	39.3
CS 1b: The refund issue faced by customers	10	35.7
CS 1c: Comparison with other online food delivery apps	7	25.0
	28	**100.0**
Service Quality Measurement	**Frequency**	**Percentage (%)**
SQ 1a: Functionality of apps	22	47.8
SQ 1b: Delivery timing	19	41.3
SQ 1c: Packaging and handling	5	10.9
	46	**100.0**

About 39.3% of customers reported poor service from "Foodie-Fly." Most turned to the in-app chat box when facing issues but were met with automated replies. Though 24-hour support is offered, some said the agents did not understand their concerns due to language gaps, leaving problems unresolved. Another 35.7% were unhappy with the refund process. Despite a 14-day refund policy, delays were frequent, and lastly, some orders were cancelled last minute without notice by restaurants, riders, or the platform itself.

Many were frustrated when refunds came as vouchers instead of cash. In contrast, the competitor "Giga Big Food" was seen as more reliable, offering better support, punctual riders, and free delivery deals. Despite the complaints, the food delivery market continues to grow, leaving space for "Foodie-Fly" to improve and rebuild trust.

The customer's perspective on service quality was analysed and categorised into three measurements: "SQ 1a: Functionality of Apps," "SQ 1b: Delivery Timing," and "SQ 1c: Packaging and Handling." A total of 22 customers (47.8%) expressed negative feedback regarding the functionality of the apps. "Foodie-Fly" is the first established online food delivery service in the market. Customers prioritise ease of use when it comes to apps. Many customers have noted that "Foodie-Fly" lacks the functionality to check order status or to lodge complaints about customer service. Additionally, two customers pointed out that the app operates very slowly; for instance, it often takes multiple attempts to search for a restaurant or food item. Furthermore, few customers mentioned that

"Foodie-Fly" does not display the rider's identity, which is a feature offered by "Giga Big Food". "Foodie-Fly" should identify the problems faced by customers and enhance the app's functionality to improve user comfort and convenience.

While "Foodie-Fly" offers convenience, many customers are unhappy with delivery delays. Although they expect food to arrive within an hour, 19 participants (41.3%) reported waiting 1 to 2 hours especially during lunch and dinner. This was particularly frustrating for office workers who rely on timely meals. In some cases, delays were caused by slow order confirmation from restaurants. To meet expectations and keep customers loyal, "Foodie-Fly" must improve delivery speed and coordination.

Five customers (10.9%) provided feedback regarding the packaging of the food. Some restaurants did not pack the food properly, particularly when it comes to soups and drinks. This often leads to spills when the food is delivered to the customer's doorstep. To address this issue, "Foodie-Fly" can communicate with restaurants to ensure that food is packed and handled with care, allowing customers to enjoy their meals at home. Additionally, these customers expressed concerns about how food was handled by the delivery riders. They noted that some riders do not pay attention to customers' instructions and simply leave the food outside the door without any notification.

The challenges of online food delivery faced by stakeholders

To address RQ2, the study sampled and interviewed 16 participants: 10 customers who used the "Foodie-Fly" online food delivery services, 3 current restaurant partners with "Foodie-Fly," and 3 food drivers for the platform. All data collected were transcribed in narrative form and uploaded into the NVivo 12 software database.

This study identified four main themes that capture the challenges of online food delivery services from the perspectives of key stakeholders. The analysis began with first-level coding, where initial codes were created by closely reading participants' narratives. Similar codes were merged to reduce overlap and organise the data. In the next phase, these codes were grouped into smaller units to identify patterns, which were then developed into subthemes. These subthemes were further refined into overarching themes that reflect the core findings. As Creswell (2009) notes, this approach involves clustering codes into broader meanings. A summary of the themes and subthemes is presented in Table 2.

Table 2. Summary of the themes, sub-themes and codes in regard to challenges of online food delivery

Theme	Sub-Themes	Codes
Technology Communication Apps Inefficiency	Unanticipated System Responsiveness	Slow and unresponsive system
		Delayed customer service response
		Limited access to customer service before rider pickup
	Order Status Communication Issue	Unable to track order
		Late food cancellation notifications
	Transparency and Resolution Limitations	Lack of explanation for cancellations
		Unclear timeframe for refunds

Table 2. (con't)

Theme	Sub-Themes	Codes
Time Pressure	Resource Constraints and Overload	Not enough food riders to meet the demand
		Overburdened food riders handling several orders at the same time
		Delays in assigning food riders
	Operational Bottlenecks Environmental Factors	Late delivery due to high restaurant demand
		Restaurants contacting riders at the last minute
		Delivery time longer than estimated.
		Road conditions causing delivery delays
		Riders under time pressure to meet responsibilities
Service Quality	Food Quality	Undercooked food and wrong orders from the restaurant
		Spilled or damaged food and drinks due to delivery issues
	Communication and Feedback Processes	Negative comments and complaints posted in the app
		Lack of communication between business owners and customers
	Value for Money Perception	Expensive in apps compared to in-store
		Additional delivery fees despite higher prices
Competitive Dynamics	Work Flexibility and Employee Attractiveness	Fixed working hours and shift patterns
		Lack of flexibility in work hours compared to Giga Big Food
		Giga Big Food offering flexible working hours
	Cost and Pricing Challenges	High commission fees
		High promotion charges
		Customer complaints about higher prices

Theme 1: Inefficiency of technology communication apps

The analysis began with first-level coding, where the researcher identified meaningful patterns linked to the core question: "What challenges do customers, business owners, and drivers face when using online food delivery platforms?" Similar codes were merged to reduce overlap and improve clarity. A second round of coding then condensed these into more focused units. As Creswell (2009) described, this stage involves grouping codes into broader ideas. These were organised into subthemes and, through further abstraction, refined into overarching themes that capture the main findings of the study.

Here is an example that demonstrates code generation from transcribed data. From Participant 1, the codes generated during the coding process were "*slow and unresponsive system, delayed customer service response, and limited access to customer service before rider pickup"*.

> *Customers faced issues with Fooddie-Fly's slow and unresponsive system, which did not allow them to track their orders or contact customer service until after the rider had picked up the food. The system was also slow, with messages to customer service taking 24 hours to receive a response. Multiple customers reported this issue.* (Participant 1)

The coding process derived the quote of *"unrealistic delivery time expectations, struggles with orders, and late delivery, which were attributed in part to the platform's lack of real-time communication and failure to provide timely updates on delivery status"*, as highlighted by Participant 11 (business owner).

> *Customers may have unrealistic expectations for online food delivery, expecting fast delivery times despite potential challenges during peak hours or unexpected conditions. This can lead to delays in delivery due to high demand, weather conditions, and balancing with in-house orders, which result in confusion. Business owners may struggle to handle an influx of orders due to a lack of system communication features, resulting in late deliveries.* (Participant 7)

The code obtained from the statement made by Participant 3 includes a *"lack of explanation for cancellations and an unclear timeframe for refunds."*

> *… Food cancellation notification is sent only 10 minutes before delivery time with no explanation and no timeframe for refund.* (Participant 3)

We conducted a second level of coding analysis to refine and merge the initial codes, forming thematic categories. In this process, we compared the meanings of each code to identify similarities, allowing us to combine them into specific themes. Our analysis focused on identifying patterns among the emerging codes, which helped us establish deeper themes and ultimately, create subthemes. We organised these subthemes into a hierarchical structure. From this analysis, we identified three main subthemes: unexpected system issues, order management issues, and delivery issues. These subthemes highlight common challenges faced by users of online food delivery platforms, particularly relating to system inefficiency, delayed customer responses, and lack of transparency. Mai and Nguyen (2024) found that system and service quality significantly influence users' trust in food delivery platforms, which in turn affect their continued usage intentions. Their study highlights the importance of reliable and responsive systems in building user trust and ensuring sustained engagement with the platform.

Based on these findings, improving the "Foodie-Fly" app is crucial for retaining customers. Respondents suggested a feedback section and refund function, display of food images, as well as improved speed and security. The latest software should be invested to improve order processing times and location tracking. Multiple payment options, such as credit cards and e-wallets, minimise the risk of fraud. Further, contactless payment methods also enhance customer security and convenience.

Theme 2: Time pressure

Time is a valuable resource, often in short supply for consumers. Customers may be unwilling to wait long for their meals due to factors like restaurant peak periods, high order volumes, or system errors that prevent orders from being processed effectively. Restaurant owners have identified capacity as their biggest challenge. During peak times, such as lunch and dinner, they must serve both dine-in customers and online orders

simultaneously. Preparing food takes time, and when a large number of orders come in at once, it can be difficult for them to fulfil all of them promptly.

> *…Foodie-Fly does not provide enough food riders to deliver the food. Some of the food riders need to handle too many at once due to the food rider need to accept the order from the system and causing the late deliveries to happen.*
> (Participant 12)

> *As a food rider, the most challenging part is the order pick up from the restaurant. Sometimes, due to the high demand of restaurants, they are unable to fulfil the order on time cause the late deliveries happened.*
> (Participants 14 &15)

The limited availability of food riders is another challenge faced by restaurants using "Foodie-Fly"'s delivery service. This can lead to delays in delivering prepared food to customers. As Foodie-Fly is not responsible for finding and contacting food riders, it falls on the restaurant to ensure there are enough riders available in the area to fulfil orders promptly. This highlights the need for a reliable and sufficient pool of food riders to support the online food delivery industry.

> *…Sometimes, we faced the availability of food riders. When we prepare food, the system does not assign the food riders to pick it up; we need to find and contact the food riders ourselves at the last minute; it is not fair for us as we had paid the fees to Foodie-Fly.* (Participant 12)

Moreover, most of the respondents pointed out that the biggest challenge of online food delivery services is the delivery time. Most of the respondents' feedback was that the delivery time is much longer than the estimated time shown in the apps. For example, customers can track the estimated time for the status of the preparation of food, handling to food rider, and delivery to the doorstep. Unfortunately, they encounter late deliveries, which always happens.

> *Sometimes, the delivery time is longer than expected and they do not allow customers to cancel their order. For example, I ordered one meal from "Foodie-Fly", and when completed the order, it will show estimation arrival time of 30 minutes, but ended up I waiting for one and a half hours during lunch hour.*
> (Participants 4, 8, 9 & 10)

Furthermore, online food delivery services face various challenges due to unexpected circumstances. Respondents have pointed out that food riders often deliver food even during inclement weather as they need to support themselves and their families. However, this can lead to delays in delivery times as they need to drive more carefully and slowly to ensure safety. The food riders feel that delivering food in rainy weather is particularly challenging as it affects their visibility, and they need to be extra cautious about road conditions. Therefore, they hope customers can understand the potential delays during such weather conditions.

> *Even on rainy days, we still need to deliver the food to the customer's doorstep as it is our responsibility as food riders. Somehow, we are unable to predict the condition on the road, but we will deliver your food to the doorstep too due to income, please expect there might be some delay of the order.* (Participant 15)

These findings reflect the time-related challenges commonly experienced in online food delivery services, particularly during peak hours, rider shortages, and unpredictable weather conditions. Similar concerns have been raised in previous studies, where delivery time accuracy was found to be a critical determinant of customer satisfaction (Koay et al., 2022). Abed (2024) further emphasised that prolonged waiting times and delays often discourage customers from reusing delivery apps. Therefore, managing customer expectations and improving operational efficiency are crucial in addressing time pressure challenges faced by food delivery platforms.

Theme 3: Service quality

Ordering food online has become second nature for many because it is quick and convenient. However, service quality still leaves much to be desired. Participants in this study spoke of common frustrations such as poor packaging, delayed deliveries, wrong items, and customer service that felt unhelpful. Many of these issues can be attributed to restaurants overlooking customer notes or getting the order wrong. As Saad (2021) also observed, timely delivery, proper handling, and order accuracy are crucial to a positive experience. For customers, having to wait again for a corrected order only adds to their disappointment.

> *The biggest challenges I've faced are undercooked food and wrong orders from the restaurant, and spilled food or drinks due to issues with the app. For instance, I received an Americano instead of an iced latte and a destroyed cake with missing packaging.* (Participant 5)

Restaurants using online food delivery services like Foodie-Fly have limited control over the delivery process, which can affect food quality and customer satisfaction. Negative feedback and complaints can significantly harm a restaurant's reputation in the industry, leading to a decrease in customer confidence and reluctance to reorder.

> *Negative comments and complaints are sometimes posted directly in the app, leaving us unaware of what happened during delivery. We also receive phone calls from upset customers without knowing the full story.* (Participant 13)

Finally, pricing is a major challenge for online food delivery services, as the prices of food items on apps are often more expensive due to commission fees, additional charges, and delivery fees. Pricing issues, especially when customers perceive app prices to be higher than in-store prices, were also found to negatively affect customer trust and intention to reorder (Abed, 2023). This can cause concern for restaurant owners who

prefer to keep prices the same as in-store prices but are forced to mark up prices due to commission rates.

> *…the most challenge is the pricing offered in online food delivery services. The app price is much higher than the in-store price. With a higher price, I still need to pay the delivery fee.* (Participants 6, 9 & 10)

Theme 4: Competitive dynamics

This study identified an internal factor affecting online food delivery services: competition among food riders. The interviews with food riders highlighted that "Foodie-Fly" previously operated 24 hours a day in Kuala Lumpur but adjusted its hours after the Movement Control Order (MCO) was implemented in Malaysia. Food riders worked in shifts to complete orders, but some reported working 10 hours a day to earn a salary based on the number of orders they completed. Resting or working less than eight hours could negatively affect their performance rating and salary. As a result, many food riders sacrificed family time to work and earn a living.

> *Unlike Giga Big Food, our working hours are fixed at around 8 to 10 hours, and we have to follow the shift pattern. To earn more, most of us work for 10 hours, as our salary is based on the number of orders we complete. In contrast, Giga Big Food riders enjoy more flexibility, as they can choose to work whenever they want and are not bound by fixed hours or shift patterns.* (Participant 16)

Food riders' earnings are not based on basic pay alone, they rely heavily on performance. Riders are ranked in batches depending on their working hours, order acceptance, and cancellation rates. Being in batch 1 means better pay, while falling into batch 2 results in lower earnings. Staying in the top tier requires timely deliveries and minimal cancellations. But this does not depend on riders alone, restaurant efficiency matters too. Delays in the kitchen can hurt a rider's rating. In the end, successful food delivery depends on both parties working in sync.

In Malaysia, the online food delivery scene is largely led by "Foodie-Fly" and "Giga Big Food". However, two customers in this study raised concerns about limited menu options and inconsistent promotions across platforms. Leanne (2021) noted that delivery apps charge restaurants commissions of 25% to 30%, often leading to higher menu prices online. Similarly, Yeoh (2021) observed that some restaurants now urge customers to order directly to avoid fees as high as 35%. While commission costs remain a major hurdle, the food delivery market continues to grow, offering more convenience for customers and opportunities for restaurants.

> *Partnering with "Foodie-Fly" comes with significant costs, such as commission fees and event promotion charges, resulting in lower revenue for us. Customer complaints about higher prices on the platform add to the challenge.* (Participant 12)

This study explored the challenges faced by customers, riders, and restaurants in the online food delivery space, focusing on service quality. Interviews in Penang showed that while convenience drives demand, unresolved issues and poor support affect satisfaction. For platforms like "Foodie-Fly" to stay competitive, both they and their restaurant partners must improve responsiveness. In a fast-paced world, reliability matters just as much as speed.

THEORETICAL AND MANAGERIAL IMPLICATIONS

This study identified several challenges faced by online food delivery services, including high delivery volumes during peak periods, maintaining food quality and safety, resource management, and logistical issues. However, the most significant challenge is delivery time. Timeliness is crucial for consumers, who expect meals to be delivered quickly and conveniently, as online food delivery services are designed to bring food directly to their doorsteps. This expectation poses a constraint for online food delivery providers.

This study contributes to the academic literature by offering empirical insights into the operational and service-related challenges within the online food delivery supply chain, as viewed by key stakeholders, customers, restaurant partners, and delivery personnel. The thematic categorisation of challenges namely technology, time, service quality, and competition builds upon and extends existing service quality frameworks, particularly in the context of digital, on-demand platforms. Furthermore, the findings underline the importance of coordinated stakeholder interactions and responsive delivery processes, contributing to broader supply chain management theories. By incorporating the perspectives of multiple actors in the supply chain, this study also supports a more integrated view of stakeholder dynamics in digital service ecosystems, thereby enriching theoretical discussions in both service operations and stakeholder theory.

Based on the findings, "Foodie-Fly" should focus on improving the quality of its online food delivery supply chain to better meet the needs of stakeholders and identify improvement opportunities to remain competitive in the market. The challenges of online food delivery services were categorised into four themes through thematic analysis using the NVivo 12 analysis package: technology (related to apps), time, service, and competition. Furthermore, the researcher should investigate negative customer feedback to gain deeper insight into these issues. It is also essential to examine the entire online food delivery process involving consumers, food drivers, and restaurants to enhance the performance of these services.

Consequently, this study emphasises the need to improve the quality of online food delivery services to address challenges effectively. The framework for improvement opportunities developed in this study provides practical implications for overcoming obstacles in online food delivery and enhancing service quality. Additionally, stakeholders in the food delivery industry can benefit from the convenience and efficiency of these services.

To sustain its business and attract new customers, "Foodie-Fly" should continuously enhance the quality of its online food delivery services. This can be achieved by upgrading app features, providing relevant platforms for stakeholders, ensuring easy access to food apps, and incorporating customer service to promptly address stakeholder

concerns. Moreover, "Foodie-Fly" needs to stay informed about its competitors in the market, which will help it understand the evolving needs and preferences of customers, including delivery times, fees, vouchers, and overall service quality.

CONCLUSION

In conclusion, this study provides important insights into the challenges faced by the online food delivery supply chain. Key findings highlight five major themes: technology, time, service quality, competition, and logistics that collectively affect the overall user experience and supply chain efficiency. Among these, delivery timeliness emerged as the most critical concern for both customers and service providers. These findings contribute to a deeper understanding of the online food delivery ecosystem by offering perspectives from multiple stakeholders, including end-users, food delivery riders, and restaurant partners.

The study contributes to the existing literature by integrating operational and experiential insights, reinforcing the importance of last-mile delivery logistics and real-time service responsiveness within the digital food delivery environment. By addressing service quality challenges across the supply chain, the findings align with the study's goal of improving service delivery and stakeholder satisfaction in Malaysia's competitive food delivery market. Stakeholders such as platform developers can leverage these insights to optimise app features and supply chain coordination. Delivery riders and restaurant partners can also benefit from clearer expectations and more structured workflows, improving overall service efficiency.

Future research should consider expanding the scope to include a more diverse range of stakeholders, such as casual users, platform developers, food delivery riders, and restaurant partners across different regions and service platforms. Including varied perspectives would allow for richer, more comparative insights into how different online food delivery applications perform and address user needs. Studies could also explore how improvements in service quality such as faster delivery, better app usability, or enhanced customer support might influence consumer behaviour, brand loyalty, and market dynamics. Additionally, investigating the role of sustainability practices within the delivery ecosystem, such as eco-friendly packaging or carbon-efficient logistics, would contribute meaningfully to discussions on responsible digital business models.

References

Abed, S.S. (2024). Factors influencing consumers' continued use of food delivery apps in the post-pandemic era: Insights from Saudi Arabia. *British Food Journal, 126*(5), 2041–2060.

Ageron, B., Bentahar, O., & Gunasekaran, A. (2020). Digital supply chain: Challenges and future directions. *Supply Chain Forum: An International Journal, 21*(3), 133–138.

Azman, N. I., Ahmad Mashuri, N. A., & Wan Ibrahim, S. O. A. (2021). The online food delivery service and their impact on customer satisfaction among university students in Malaysia. *International Journal of Academic Research in Business and Social Sciences, 11*(6), 1665–1674.

Banerjee, D. S. P, Jain, D. D., & Nayyar, D. R. (2019). Measuring service quality of food delivery services: A study of Generation Z. *African Journal of Hospitality, Tourism and Leisure, 8*(1), 1–7.

Braun, V. & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. Sage Publication.

Chai, L. T., & Yat, D. N. C. (2019). Online food delivery services: Making food delivery the new normal. *Journal of Marketing Advances and Practices,* 1(1), 62–77.

Chern, B. T. P., & Ahmad, F. B. S. (2020). Supply chain evolution. A study of opportunities and challenges of virtual kitchens in Malaysia. *Journal of Critical Reviews, 7*(16), 361–368.

Chotigo, J., & Kadono, Y. (2021). Comparative analysis of key factors encouraging food delivery app adoption before and during the COVID-19 pandemic in Thailand. *Sustainability, 13*(8), 1–25.

Creswell, J. W. (2009). *Research design : Qualitative, quantitative and mixed methods approaches* (3rd ed.). Sage Publications.

Das, S., & Ghose, D. (2019). Influence of online food delivery apps on the operations of the restaurant business. *International Journal of Scientific & Technology Research, 8*(12), 1372–1377.

Dazmin, D., & Ho, M. Y. (2019). The relationship between consumers' price-saving orientation and time-saving orientation towards food delivery intermediaries (FDI) services: An exploratory study. *Global Scientific Journal, 7*(2), 175–190.

Deepak, B. J., Rodrigues, U. M., & Rani, P. (2020). The Internet's potential: A study of Indian news sites. *SEARCH Journal of Media and Communication Research, 12*(2), 39–57.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59–82.

Koay, K. Y., Cheah, C. W. & Chang, Y. X. (2022). A model of online food delivery service quality, customer satisfaction and customer loyalty: A combination of PLS-SEM and NCA approaches. *British Food Journal, 124*(12), 4516–4532.

Leanna, S. (2021, May 5). Choosing the right food delivery partner. *Dropee*. https://www.dropee.com/pages/choosing-the-right-food-delivery-partner/

Li, C., Mirosa, M., & Bremer, P. (2020). Review of online food delivery platforms and their impacts on sustainability. *Sustainability, 12*(14), 1–17.

Mai, X. T., & Nguyen, T. (2024). Understanding users' trust transfer mechanism in food delivery apps. *Journal of Hospitality and Tourism Insights, 8*(4), 1582–1601. https://doi.org/10.1108/JHTI-05-2024-0449

Md Rahim, N., & Mohd Yunus, N. F. A. (2021). Consumers satisfaction towards e-Hailing food delivery services during Movement Control Order period: A case study in Selangor. *Journal of Science and Mathematics Letters, 9*, 1–9.

Namkung, Y., & Jang, S. (2007). Does food quality really matter in restaurant: Its impact of customer satisfaction and behavioral intentions? *Journal of Hospitality and Tourism Research, 31*(3), 387–410.

Pigatto, G., Machado, J. G. D. C. F., Negreti, A. D. S., & Machado, L. M. (2017). Have you chosen your request? Analysis of online food delivery companies in Brazil. *British Food Journal, 119*(3), 639–657.

Prabowo, G. T., & Nugroho, A. (2019). Factors that influence the attitude and behavioural intention of Indonesian users toward online food delivery service by the Go-Food application. *Proceedings of the 12th International Conference on Business and Management Research (ICBMR 2018)* (pp. 204–210). Atlantis Press.

Rathore, S.S., & Chaudhary, M. (2018). Consumer's perception on online food ordering. *International Journal of Management & Business Studies, 8*(4), 12–16.

Rawat, R. (2024, April 10). Challenges faced by food delivery services and how to overcome them. *Narola Infotech*. https://www.narolainfotech.com/blogs/challenges-faced-by-food-delivery-service-and-their-solutions/

Ray, A., Dhir, A., Bala, P.K., & Kaur, P. (2019). Why do people use food delivery apps (FDA)? A uses and gratification theory perspective. *Journal of Retailing and Consumer Services, 51*, 221–230.

Saad, A.T. (2021). Factors affecting online food delivery service in Bangladesh: An empirical study. *British Food Journal, 123*(2), 535–550.

Salman, A., Yusoff, M. A., Tan, P. L., & Abd Razak, A. S. (2018). Determinants of online purchasing decision among university students. *SEARCH Journal of Media and Communication Research, 12*(ICOME'18), 61 – 73.

Shamsuddin, N., Zakaria, N., & Ismail, T. (2023). Food quality and online food delivery services during covid-19 pandemic: are customers satisfied? *International Journal of Academic Research in Business and Social Sciences, 13*(5), 399–410.

Srichroen, J., Pitanon, J., Chompu, O., Chinnapha, K., Boonnag, K., Pitchayadejanant, K., Mambelli, M., & Nakapthom, P. (2024). Perception of customer experience towards customer loyalty in online food delivery services in Thailand: Exploring in Generation Z. *Community and Social Development Journal, 25*(1), 164–174. https://doi.org/10.57260/rcmrj.2024.266141

Statista. (2024). *Online Food Delivery - Southeast Asia | Market Forecast.* https://www.statista.com/outlook/emo/online-food-delivery/southeast-asia

Vasic, N., Kilibarda, M., & Kaurin, T. (2019). The influence of online shopping determinants on customer satisfaction in the Serbian market. *Journal of Theoretical and Applied Electronic Commerce Research, 14*(2), 70–89.

Yeoh, A. (2021, June 28). Restaurants urge customers to bypass food delivery platforms charging exorbitant fees. *The Star*. https://www.thestar.com.my/tech/tech-news/2021/06/23/restaurants-urge-customers-to-bypass-food-delivery-platforms-charging-exorbitant-fees

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