

## Online Food Delivery Sentiment Analysis from the Restaurant Point of View

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**Abstract:** Online food ordering has brought about a significant transformation in the food delivery landscape of Malaysia, facilitated through digital platforms such as websites and apps. This innovation has streamlined operations for restaurants, delivery personnel, and customers alike. While much research has focused on studying customer behavior, there remains a noticeable gap in understanding the perspectives of restaurants as they embrace these digital platforms to market their food offerings. This study seeks to bridge this gap by employing sentiment analysis. Through the analysis of 149 comments posted on social media groups frequented by restaurants utilizing online food platforms (referred to as vendors) in 2022, this research aims to comprehend the challenges faced by restaurants in this context. The sentiment analysis reveals the existence of seven primary categories of challenges. These encompass concerns related to regulatory policies, issues involving delivery personnel, challenges about the functioning of the online systems, difficulties arising from device usage, and matters concerning customer interactions. By delving into these categories, this research sheds light on the intricate array of challenges that restaurants encounter when participating as vendors on online food platforms. This comprehensive understanding contributes to a holistic comprehension of the hurdles faced by restaurants in adapting to this evolving landscape.

**Keywords:** *Restaurant, Online Food Delivery, Online Food Delivery Vendors.*

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### 1. Introduction and Background

The main purpose of this study is to understand the difficulties that restaurants face when they use online food, platforms in Malaysia. The study will analyze comments on social media from these restaurants and group them into different categories to uncover problems related to policies, operations, and customers. By doing this, the study helps us learn more about the challenges restaurants deal with, filling a gap in existing research and giving us a better idea of the complex issues in the world of online food ordering and delivery. A restaurant that employs an online platform for food delivery is commonly referred to as a "food delivery restaurant" or "delivery restaurant." It may also be known as a "virtual restaurant" or a "cloud kitchen" if it solely accepts online orders and lacks a physical storefront or dining area (Slang, 2021). At times, the term "ghost kitchen" is also used for restaurants primarily focused on delivery orders (Krimmel, 2023). Virtual restaurants lack a physical storefront, which can pose challenges for potential customers in discovering them. The absence of a physical presence makes it challenging to build brand awareness and attract new customers. The popularity of online food delivery platforms has led to an influx of virtual restaurants on these platforms, resulting in intense competition (Cooper, 2021). As a result, the competition among virtual restaurants has intensified, making it more difficult for new entrants to distinguish themselves. Intense competition also exists between online food delivery platforms and other platforms offering similar services. This can make it difficult to acquire new clients and retain existing ones (Luki, 2020).

Virtual restaurants heavily depend on online food delivery platforms for their sales and often have to pay a commission for each order. This can reduce their profit margins and impede their expansion beyond the digital domain (VKO, 2016). Delivery logistics present a notable challenge for online restaurants. Ensuring punctual delivery, maintaining optimal food temperature, and ensuring precise drop-off locations are crucial for satisfying customers (Mat Nayan & Hassan, 2020; Ramaraj, 2017). This task can be particularly demanding during peak hours or in densely populated areas. Since virtual restaurants lack a physical presence, fostering customer loyalty and retention becomes a challenge (Hood Filters, 2020). Holding onto customers and establishing a strong reputation necessitate outstanding customer service and consistent food quality. Because they do not have a complete kitchen setup, virtual restaurants might have a restricted menu. This could be a drawback for customers looking for a wide variety of menu choices. Online food delivery

platforms heavily depend on technology to connect restaurants with customers. Technical problems like server failures, slow page loading, and app crashes can lead to customer frustration and harm the platform's reputation (Hood Filters, 2020). Other challenges include delivery logistics: Online food delivery services need to efficiently handle delivery logistics. Keeping up consistent food quality can be challenging for online restaurants, particularly those heavily reliant on delivery services. To ensure customer satisfaction, food must be packaged and transported appropriately to preserve its quality. It's crucial for maintaining customer satisfaction that food arrives on time, at the right temperature, and at the correct location (Mat Nayan & Hassan, 2020).

This can be demanding, especially during peak hours or in densely populated areas. Ensuring order accuracy is another critical factor in guaranteeing customer satisfaction. Miscommunications and order errors can result in customer frustration and negative reviews (Optimoroute, 2022). Customer service is paramount: Online food delivery platforms should deliver exceptional customer service to guarantee a positive customer experience. This entails promptly addressing inquiries, resolving problems, and providing updates on order status (Koay et al., 2022). The online food delivery market in Malaysia is fiercely competitive, with numerous contenders competing for a piece of the pie. This challenge can make it tough for newcomers to set themselves apart and draw in customers.

**Commission Fees:** Online food delivery platforms apply a commission fee to restaurants for every order made through their platform (Focus, 2020). Some restaurants argue that these fees are unreasonably high, potentially restricting their profitability and hindering expansion beyond the online realm. Payment processing can pose challenges for online food restaurants, particularly small businesses lacking the funds to invest in payment infrastructure. However, despite the significant initial expenses, investing in an improved restaurant Point of Sale (POS) system and adopting intelligent payment features offers advantages that go beyond just enhancing payment processing (Brolan, 2019). The payment method stands as a vital instrument for e-commerce, often executed through credit cards or electronic checks (Khalid et al., 2018). Customer contentment hinges on accepting diverse payment methods and guaranteeing secure payment processing.

**Compliance with Regulations is Essential:** Malaysian online restaurants need to follow a range of food safety, hygiene, and licensing rules (Thangayah, 2009). Especially for newcomers, ensuring adherence to these regulations might pose challenges.

## 2. Literature Review

**Online Food Delivery:** There are two types of online platforms, according to (Carsten Hirschberg, Alexander Rajko, and Thomas Schumacher, 2016). The first type consists of "aggregators," which emerged around 2001, and the second consists of "new delivery" players, which emerged in 2013. Both allow consumers to compare menus, scan and post reviews, and place orders with a single click from a variety of restaurants. The aggregators, which fall under the category of traditional delivery, collect customer orders and forward them to restaurants, which handle delivery themselves. In contrast, the new delivery players construct their own logistics networks and deliver food to restaurants without their drivers. The eservices market segment of Online Food Delivery includes the user and revenue growth of two distinct delivery service solutions for ready-to-eat meals: (1) Restaurant-to-Consumer Delivery and (2) Platform-to-Consumer Delivery. Included in revenue is the gross merchandise value (GMV), which is the total dollar value of sales for merchandise/food sold through the Online Food Delivery marketplace. Online Food Delivery includes services that deliver online-ordered prepared meals and food for immediate consumption. The Restaurant-to-Consumer Delivery segment consists of restaurants delivering food directly to customers. The order may be placed through platforms (e.g., Delivery Hero, Just Eat) or a restaurant's website (e.g., Domino's). The Platform-to-Consumer Delivery market segment focuses on online delivery services that offer customers meals from partner restaurants that are not required to offer food delivery themselves. In this case, the delivery process is handled by the platform (e.g., Deliveroo) (Statisca.com, 2021).

**Online Food Delivery in Malaysia:** On-demand food delivery (ODFD) also refers to purchasing and delivering freshly prepared meals from kitchens or restaurants to customers at customer-specified locations. These services have seen a boom in the past few years, owing to the widespread use of online

platforms (Aktas et al., 2021; Mikl et al., 2020). In the last decade, the online food delivery business in Malaysia has expanded with monumental success from companies such as Dahmakan, Food Panda, GrabFood, and Honestbee, among many others. These services have been considered essential services during the pandemic, providing access to food for the public. They have also helped keep the restaurants and kitchens afloat, as public gatherings in hotels and restaurants were restricted in most countries (Puram & Gurumurthy, 2021). The revenue in online food delivery amounted to US\$192m in 2020, which is expected to show an annual growth rate (CAGR 2020–2024) of 17.9%. With that massive growth, food delivery is set to become a \$370 Million industry by 2024 (Sin & Lo, 2021). It also becomes an important backup in the case of an outbreak such as Covid 19 (Fauzi et al., 2022; Zainol et al., 2022).

### 3. Research Methodology

This study performs qualitative research. Sentiment analysis, also called opinion mining, is a method used to pull out personal thoughts from text data. It means looking at text and sorting it into different groups depending on the feelings, viewpoints, and opinions shown in the text (Luo et al., 2013). Sentiment analysis can be used for many things like social media posts, reviews from customers, news stories, and more. It's used by businesses and groups to understand how people like their stuff, services, or brand. They then use this to make smart choices based on what people say. Sentiment analysis can be done using different methods, such as rule-based systems, machine learning algorithms, and natural language processing (NLP) techniques (Eric Kleppen, 2023). These methods mean looking at the text for special words, phrases, or patterns that show a certain feeling. Then, they give a score or a label to the text to show that feeling. In general, sentiment analysis is a useful tool for businesses and groups that want to understand how their customers or stakeholders feel and what they think. Sentiment analysis, also called opinion mining, is a natural language processing (NLP) trick used to find and take out personal information from text. Sentiment analysis aims to say if the feeling in a piece of text is good, bad, or not strong (Eric Kleppen, 2023). Sentiment analysis has become more and more popular in recent times because there's a lot of content made by users on the internet.

Like posts on social media, reviews of products, and conversations in online forums (Iglesias & Moreno, 2019). People use sentiment analysis in many ways, like studying markets, understanding politics, helping customers, and managing brands. There are different ways to do sentiment analysis, like rules, machine learning, and a mix of both (Eric Kleppen, 2023). Rules use special rules and word lists to find words that show feelings and then give scores based on those words. On the flip side, machine learning methods use algorithms that learn from marked data to guess the feelings of new, not marked data (Mathworks, 2023). The latest progress in deep learning has also brought about neural network models for sentiment analysis. These models use deep learning structures, like convolutional neural networks (CNNs) and recurrent neural networks (RNNs), to learn tricky details and connections in text and make better guesses (Aichatgpt, 2023). Even though there are a lot of tough parts in sentiment analysis, like sarcasm, irony, and how feelings depend on the situation, it's still a hopeful and quickly changing area of study with lots of possible uses. As there's more and more text online, sentiment analysis will keep being important for getting meaning and information from all this text.

### 4. Analysis and Discussion

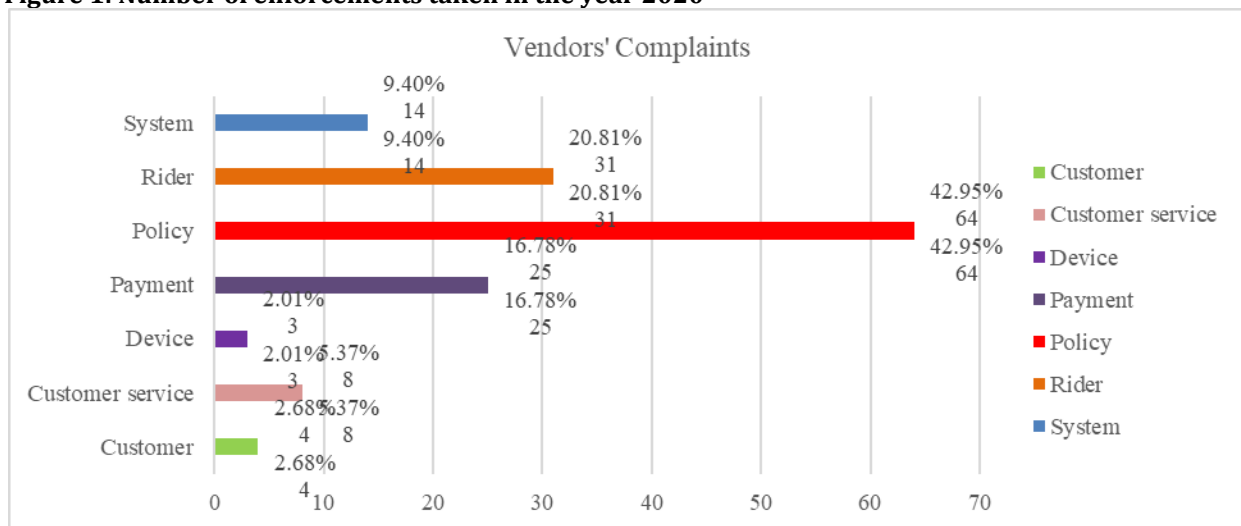
Table 2 shows the detailed offences under related sections, and enforcement taken within the year 2020. Out of 149 data collected, nearly half of the comments, or 42.95%, have difficulties with Platform A policy. This is because Platform A has been called out on social media for allegedly demanding unreasonable substantial hidden fees from its vendors. In addition, the vendors were displeased with the fact that the fee for the unrequested promotion was imposed without their knowledge. The merchants also provided negative comments and demanded Platform A amend its policy on food waste because the merchants were compensated only 40% of the food's price upon the cancellation of an order. The high cost of delivery resulted in a reduction in the number of orders received by the merchants, which in turn led to a decrease in their overall sales. There were 20.81% of comments, which is comparable to 31 out of 149 that expressed displeasure from sellers toward Platform A riders. This is a result of the riders taking an excessively long amount of time to collect the food, which led to the cancellation of orders by the customers.

Some riders for Platform A are regarded as being unreliable and undisciplined in the manner in which they carry out their work. This is because they frequently commit errors, such as providing customers with incorrect orders or leading customers to believe that the vendor is not in business. 25 out of 149, or 16.78%, have vented their anger with Platform A delay in payment as a result of this issue. There was a customer who claimed that the store's profit wouldn't be remitted to them even after 14 days, and because of this, they did not have enough money to refill the goods or ingredients to maintain the business because of late payments and also a high amount of adjustments and penalties. From the analysis, there were 14 of the total merchants expressed their anger with the system that Platform A causes. This is a result of the time-consuming method that they employ to allocate riders to incoming orders. This, in turn, leads to the same consequences, which are that customers cancel their orders since they are forced to wait too long. They also point out that the system did not provide enough time for the preparation of the food.

This irritated some of the riders because it meant that they had to wait for the food to be ready even though the system had already indicated that they intended to fulfill the order. 5.37% of all comments which is equivalent to 8 vendors expressed some level of displeasure with the customer service provided by Platform A. The vendors have reported that they are unable to contact the customer support department since it is not contactable. This is because Platform A has not been able to get their phone calls or emails answered. There was also a claim that a customer support representative had behaved in an unprofessional manner toward one of the merchants. There were as many as 2.68% of complaints received that involved vendors expressing their disappointment with Platform A customers. There was an incident in which a customer complained to Platform A that they had received incomplete food. Even though the vendor had ensured that the food that would be received by the customer was complete and also taken pictures of the food before handing it over to the rider on duty.

The reason the customers acted in such a manner was because they wanted to earn free vouchers and avoid having to pay for the food that they had received. There were also complaints in which the customer stated that they did not receive the food, even though the rider had delivered the food and even a photo as proof had been taken, which indicated that the food delivery had been completed. From the data, only 3 vendors out of 149 voiced their dissatisfaction with the device that was supplied by Platform A. The merchants complained that they were unable to connect their devices to the available Wi-Fi or that they did not have any internet connection at all. As a direct consequence of this, they were unable to take any orders from their customers, which resulted in a reduction in the number of sales made on that particular day. The vendors also reported that the device's battery life span decreased rapidly, although the device was not used particularly frequently and was occasionally powered down by itself.

Figure 1: Number of enforcements taken in the year 2020



**Policy Issues:** The highest problems identified and thematized are related to the policy issues. The first policy issue is related to the cancellation of orders by riders “Why does Platform A not place the phone number of delivery riders and their vehicle registration numbers and give them to the vendors and customers? So that if anything happens we can easily report it to the authorities. I cannot hold any longer with cancellation problem cases.” - Informant A.

**Confusing Charges:** “I’ve experienced that, We do not subscribe to anything but were asked to pay RM1890.00. For two months I have not received any payments. I started to mark (getting vicious) and email to stop using platform A. But they called and apologized saying that it was the fault of the marketing, I resisted and still wanted to quit but they blackmailed me If I did not pay the remaining amount, they would not unsubscribe and keep on adding more amount. I switched off for a week and still invoiced for their device’s sales service taxes etc. I still had to use it since more customers were still using Platform A. So that’s the bad experience I have faced” -Informant B. Similarly, Informant C was charged and the amount of profit he received was immediately deducted to pay the sum he was charged, The informants were questioning how a small business gets to roll or have the amount to purchase supplies. “Same as us, I got RM1000 profit, suddenly the amount owed to platform A is RM2,000 and that amount is deducted immediately to their account, so where do I get my capital to roll? Pity for small businesses like us. At the end of the day, we are the ones who owe them” - Informant C. Policy-related issues the unclear information about the policy made, which resulted in vendors feeling cheated and looses thousands of ringgits. There are a total of 64 comments that express their dissatisfaction and complaints about being charged exorbitantly. This information is gathered from February 2022 until December 2022.

**Rider Problem:** Informant D explained further about riders’ issue that they have to deal with: “What does drag order mean? It means the rider took the order from the vendor but he didn't press the pick-up and didn't send the order to the customer. Why do riders want to drag time? Because you want to keep the batch/meet special hour by tricking the rider's scoring system. Drag order effect: Drag order impression: While the rider doesn't press pick up, the customer still thinks that the vendor is still or slow preparing food. The cold food arrives in the hands of the customer because the rider does other work. When the food is slow to arrive, Customers can still cancel orders and they can also give vendors a low rating. The rider's actions are wrong and this is prohibited by the pandas Vendor should bother this so that this does not happen again. \*If the rider asks for the customer's phone number... Don't give the rider. Riders will automatically have the customer's number and address after they press 'pick up' “ Informant D.

## 5. Conclusion

In conclusion, the rise of online food ordering has revolutionized how food is delivered in Malaysia, with digital platforms playing a central role. This transformation has streamlined operations for restaurants, delivery personnel, and customers. Despite the focus on understanding consumer behavior, there's been a gap in comprehending the restaurant's perspective within this digital landscape. This study aimed to fill this void by using sentiment analysis. By analyzing 149 comments from restaurant-related social media groups in 2022, this research aimed to grasp the challenges faced by these eateries. The sentiment analysis revealed seven key challenge categories, including regulations, delivery personnel, online system glitches, device difficulties, and customer interactions. This investigation provides a deep understanding of the intricate challenges restaurants deal with as they navigate online food platforms. It not only contributes to academic insights but also offers practical benefits. Restaurant owners can use these findings to tackle their unique challenges, enhancing their strategies for success. Additionally, policymakers can use these insights to craft regulations that address the evolving needs of restaurants in the digital age. In essence, this research serves as a valuable resource for enhancing the effectiveness and sustainability of restaurants operating in the dynamic landscape of online food ordering platforms in Malaysia. It sheds light on the hurdles restaurants face, guiding industry stakeholders in optimizing their operations, fostering growth, and improving customer satisfaction.



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