

HALAL FOOD INTEGRITY: AWARENESS AND CHALLENGES AMONG FOOD DELIVERY RIDERS IN SEGREGATING HALAL AND NON-HALAL ITEMS

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Abstract: *The issue of mixing halal and non-halal food in a single food delivery bag has raised consumer concerns regarding the halal integrity of their orders. As halal compliance is a serious matter, any negligence in food handling may compromise the overall integrity of the delivery process. Food delivery service providers are expected to implement systems or mechanisms that ensure proper segregation of halal and non-halal items in accordance with established halal standards. This study aims to explore the awareness, specific practices, and challenges faced by food delivery riders (FDRs) in segregating halal and non-halal food items during delivery. A qualitative research approach was adopted to collect and analyze the data. The findings reveal that while the overall awareness level among FDRs is satisfactory, some riders still fail to adhere to proper halal food handling practices. This study provides insights that can guide both FDRs and food delivery companies to enhance their services through better training, food handling protocols, and compliance with halal requirements. Furthermore, the findings may support policymakers and relevant authorities in developing more effective strategies to regulate and support the food delivery industry, ensuring halal integrity is preserved throughout the supply chain.*

Keywords: *Halal food integrity, food delivery riders (FDRs), halal and non-halal segregation, food handling practices, consumer awareness*

Introduction

Food delivery services in Malaysia have experienced rapid transformation in recent years, driven by the expansion of e-commerce and rising consumer demand for convenience. These services allow consumers to order meals online or via mobile applications, which are then prepared and delivered directly to their preferred locations.

The modern food delivery industry began to expand significantly with the entry of Foodpanda in 2012, followed by other platforms such as GrabFood and DeliverEat, which are particularly dominant in urban centres including Kuala Lumpur, the Klang Valley, Penang, and Johor Bahru. This growth reflects changing urban lifestyles, where busy consumers increasingly rely on delivery services for quick and hassle-free meals (Said & Samat, 2021). Beyond convenience, food delivery platforms also reshape the food and beverage industry by broadening market reach, improving efficiency, and fostering new consumer behaviours (Allah Pitchay et al., 2022).

However, the rapid growth of this sector also raises critical concerns regarding halal compliance. Muslim consumers have increasingly voiced worries about possible cross-contamination when halal and non-halal meals are transported together in the same bag, without proper separation or labelling. This issue has even led to complaints being lodged with JAKIM and state religious councils, highlighting the need for stricter monitoring in the delivery process. According to MS 2400:2019 Halal Supply Chain Management System, segregation must be ensured at every stage, including transportation, yet many delivery riders lack training or awareness of these requirements.

Despite the importance of food delivery riders as the final link in the halal supply chain, limited research has examined their awareness or practices regarding halal segregation. Most existing studies focus on certification, supply chain processes, or consumer behaviour, leaving a gap in understanding how last-mile delivery practices affect halal assurance. This study therefore seeks to address this gap by investigating the awareness of food delivery riders in Malaysia on the segregation of halal and non-halal food, offering insights that may strengthen consumer trust and support the integrity of the halal industry.

The Concept of Halal Food

The halal sector represents one of the most dynamic and rapidly expanding segments in the global market. With a global Muslim population estimated at approximately 3 billion, the demand for halal products particularly within the food sector continues to rise sharply. The halal industry spans multiple sectors, including finance, tourism, services, transportation, and food (Nurrachmi, 2017). The growing prominence of Islam as the fastest-expanding religion globally contributes significantly to the high market potential of halal food.

Derived from the Arabic word *halal*, which means “permissible” or “lawful,” the concept is rooted in Islamic teachings and governs many aspects of daily life, especially dietary practices. Halal food refers to any food or beverage that is permissible for Muslims to consume, in accordance with the principles outlined in the Quran and Hadith. As defined by Addina and Santoso (2020), Halal food is that which complies with Islamic dietary laws, excluding prohibited substances such as alcohol and certain animal-derived ingredients.

To qualify as halal, food must not only be free from *haram* (forbidden) elements but also be prepared, processed, and handled in a manner that aligns with Islamic principles. This includes ensuring that ingredients, packaging materials, and preparation surfaces are not contaminated by non-halal substances. The presence of alcohol, pork, carnivorous animals, amphibians such as frogs and mangrove crabs, and most insects except grasshoppers renders food non-halal (Nurrachmi, 2017). Moreover, even meat from permissible animals like chicken and cattle must be slaughtered in accordance with *syariah* (Islamic law) to be deemed halal.

Halal food production must also meet stringent standards of hygiene and sanitation to ensure safety and wholesomeness. Ali and Regenstein (2014) emphasize that every step in the production and supply chain starting from the sourcing of ingredients on the farm to food processing, handling, and packaging must uphold the integrity of halal compliance. The process must be free from *najis* (impurities) and any form of contamination with non-halal elements (Agil & Nor, 2012).

Equally critical is the aspect of logistics and storage. Halal and non-halal foods must be stored and transported separately to avoid cross-contamination. This includes the use of dedicated containers, utensils, and food delivery mechanisms that maintain the sanctity of halal products throughout the entire supply chain.

The Importance of Segregating Halal and Non-Halal Food in Food Delivery Services

In the context of a multicultural society such as Malaysia where Islam is the religion of the majority and halal compliance is a legal and ethical imperative the proper segregation of halal and non-halal food in food delivery services is crucial. As food delivery becomes an integral part of daily life, particularly in urban areas, ensuring the integrity of halal food throughout the delivery process is of paramount importance.

One of the growing concerns among Muslim consumers is the possibility of cross-contamination during the handling and delivery of food. This includes concerns over shared delivery bags, lack of compartmentalisation, and the potential mixing of halal and non-halal meals during transit. Such situations not only raise questions of religious permissibility but also affect consumer trust and the credibility of food delivery platforms in serving the Muslim market.

Despite the availability of halal-certified meals on food delivery apps, there is still limited oversight over how food is handled post-preparation especially in the "last mile" of the delivery chain. In many cases, food delivery riders transport both halal and non-halal food in the same bag or container, without any physical separation or labelling to indicate the status of the food items. This raises doubts about the overall halal assurance of the meal, as required under Malaysia's halal certification standards.

According to the Department of Islamic Development Malaysia (JAKIM), halal logistics and food handling must observe principles that prevent contamination at every stage including transportation. The MS 2400:2019 Halal Supply Chain Management System standard outlines the need for dedicated tools, facilities, and processes to ensure the segregation of halal and non-

halal items. However, food delivery riders, who often work as gig workers or part-time contractors may lack awareness or formal training on halal handling requirements.

This issue presents a unique challenge in the halal assurance ecosystem, as food delivery riders serve as a critical link between restaurants and end consumers. Therefore, their level of awareness and adherence to halal food handling protocols can significantly impact consumer perception and satisfaction, particularly among Muslims. The concern is not merely about religious observance, but also about ethical business conduct and respect for cultural sensitivities.

Considering this, the present study aims to explore the level of awareness among food delivery riders in Malaysia regarding the segregation of halal and non-halal food during the delivery process. Understanding their knowledge, practices, and challenges can provide important insights for improving halal compliance in the evolving food delivery industry.

Literature Review

General Awareness of Food Riders Towards Segregation Halal and Non-Halal Food in Food Delivery Bag

In today's fast-paced world, food delivery services have become an essential aspect of existence. Millions rely on food riders, the backbone of these services, to deliver meals quickly. However, for people who have certain dietary requirements, particularly those who follow halal norms, the issue arises: How aware are food riders of the significance of separating halal and non-halal food items in their delivery bags?

This recent study examines food safety compliance among food riders: how much they know, what attitudes they have, and how they perceive risk. While not always explicitly about halal and non-halal segregation, the findings show that riders who have higher awareness of food safety are more likely to accept and follow protocols; gaps were found in risk perception. (Nor et al., 2024)

In general, this knowledge of how to handle food should have been known by FDR because it is common knowledge that all Muslims know and learn. At the same time, the role of the company also needs to be in providing detailed training related to the handling of halal and non-halal food so that it can be a reminder to FDR to ensure that when they work, the separation of halal and non-halal food needs to be implemented. Based on respondent, they shared about the training that he receives before become an FDR.

For the training part, I only received online training on how to handle non-halal food orders. In the training, the Company has also prepared a short video to improve my understanding of how to handle the food order. However, there is still no physical training to explain more deeply and at the same time no practical training is given. (Respondent 1)

Yes, I have had but only a little, which is basic training because in the rider's bag a special bag has been prepared to put non-halal food. (Respondent 2)

Studies show that many Online Food Delivery Services (OFDS) upper management understand halal supply chain in theory, but implementation is weak, particularly among riders. There is also variation in risk perception or knowledge among riders. (Samori et al., 2023)

Aside from that, an FDR charged with maintaining the integrity of a halal order must possess a unique and delicate set of attitudes. First and foremost, bravery is necessary. They must have the confidence to query about the contents of the order, especially if it includes many restaurants or ambiguous labeling. This might include respectfully asking the restaurant personnel if the order follows halal requirements or reaching out to the customer for clarification.

Since I am indeed a regular (non-halal) FDR, I will ask the customer or the restaurant about the halal status of the food. This is because as a Muslim, it is very important for me to find halal sustenance to obtain sustenance that is blessed and pleased by Allah SWT. (Respondent 1)

Yes, because it is the responsibility of Muslims to ensure that the food delivered is always clean and halal. (Respondent 2)

Usually, I will refer to the information on the "Menu" section to see if the food order received is doubtful or not. If it is doubtful, then I will ask the restaurant staff about the food menu. (Respondent 3)

Related studies show that awareness is correlated with factors like education, prior experience, company policy. Some riders do practice querying ambiguous cases (Samori et al., 2023).

In addition, many FDRs who work in the gig economy sector are aware of the separation of halal and non-halal food in their delivery bags. This can be further proven by the statement given by respondent as below:

Yes, because as a Muslim I need to maintain transparency regarding the difference in the handling of halal and non-halal food. (Respondent 2)

I understand that halal food cannot be placed together with non-halal food in the food delivery bag at the same time. I already know this based on what I have learned at school and university. (Respondent 3)

According to the statement above, there are many sources that provide and teach about how to handle halal and non-halal food, especially in schools where religious subjects are taught, and this becomes a very valuable knowledge for every Muslim student. Furthermore, with the variety of advanced gadgets that exist today, it has also become a branch to obtain diverse knowledge, so it cannot be used as an excuse to not be aware of how food is handled in this industry sect.

As it known in Malaysia that Muslim customers are renowned to having a thorough understanding of halal, which encompasses all aspects of their lifestyle. They are very attentive to the halal status of items and have a thorough awareness of halal food intake. The Quran

encourages Muslims to pick halal and thoyyib foods (surah al-Baqarah, verse 168), leading to increased awareness (Musa et al., 2021).

The Specific Practices of Food Riders Towards Segregation Halal and Non-Halal Food in Food Delivery Bag

The halal food supply chain encompasses the whole management process for halal food items, from the supplier to the buyer or consumer. At the same time, a halal food supply chain also prioritizes consumer happiness while maintaining the halal status of products throughout the process. According to Nizar and Abidin (2021) The integrity of the halal food product must always be protected, and all parties participating in the supply chain must take all necessary precautions to avoid cross contamination, which might render the product non-halal or haram. Food goods must be halal not just at the start of the supply chain, but also throughout the whole supply chain until they reach their destination. The product may be halal at the moment of pick-up or at food outlets, but if not handled appropriately, its halal status may be affected. This is the point at which online FDS may make or break the halal supply chain. As a result, FDR must be knowledgeable with the halal supply chain. They must recognize the importance of their task and carry it out properly. According to respondent 1, he mentioned that he practiced and realize the important of segregation during delivery.

I honestly do not feel confident using the same bag to deliver non-halal food orders. Although the company provides two separate bags, one of which is a small-sized bag for ordering non-halal food, but I think it is not appropriate to put the small bag in a normal-sized bag because there is a fear of cross-contamination. So, it is important to make sure the segregation between halal and non-halal food during delivery. (Respondent 1)

I also know and realize that I should not mix up the use of halal food order bags and non-halal food orders. (Respondent 1)

According to the Malaysian Halal Certification Procedure Manual (MPPHM 2020) which mentions that if there is any contamination with mughallazah najs, then Sertu process must be taken. Shariah sertu cleaning involves removing impurities following MS2400 standard standards. The Shariah sertu cleaning methodology follows Islamic laws in the Holy Quran to remove pollution from the three forms of najs (Ahmad & Shariff, 2016). Cleansing strives to eliminate all remnants of impurities, leaving no indication of contamination. In halal logistics and transportation, "sertu cleansing" refers to sertu procedures that are performed on transportation vehicles and containers if there is evidence of najs contamination or if the status of halal and cleanliness (toyyib) is uncertain. In FDS, it is important to make sure all process during delivery does not have any containtation and the FDR also can implement specific practices towards these matters. For example, respondent 1 and 2 also mentioned the action taken by them when to deliver non-halal food.

I will make sure that the food is packaged cleanly and put separately to avoid contamination, spillage, and other issues. (Respondent 1)

The action I will do is to put the food into the bag that has been prepared (Non-Halal Bag) based on the types of food. (Respondent 2)

The Challenges of Food Riders During Handling Halal and Non-Halal Food in Food Delivery Bag

As a consumer who often uses this food delivery platform to buy food while working in the office, it is very too concerned about the halal aspect in terms of the halal food supply chain because this cross contamination can happen if there is no responsibility in handling the halal food correctly. According to Samori et al. (2023) mentioned the goal of halal supply chain management is to control the manufacture of halal goods because customers will be the final recipients. At the same time, it seeks to accommodate the demands of customers. This is because the halal food business is expanding rapidly throughout the world. The halal supply chain contributes significantly to addressing this rising demand by providing halal products to customers all over the world in an efficient and reliable manner.

However, in ensuring that the halal food supply chain is at a good level, there are challenges faced by FDR. Based on the interview session with respondent 2, he stated his experience as follows:

Based on experience, I have never faced a big challenge because I am a very careful person when doing food delivery. However, when I receive the task of delivering food to customers, the challenge is to ensure that the food does not spill or forget to put the non-halal food in the bag provided. If such a thing happens, for me it causes a big problem because there is a fear of cross-contamination between halal and non-halal food. (Respondent 2)

According to the comments of the interview session, respondent 2 is a very careful person when doing tasks but the mixing of halal and non-halal food can happen if he forgets or is not focused. This is because if you look at the way a rider works, it is very tiring and this can also be linked to the period they work with the uncertain weather conditions, so the mixing food can happen. While respondent 1 stated that he always makes sure to avoid from taking non-halal foods.

So far, I have never faced any challenges in handling non-halal food orders because I will make sure to avoid taking such orders. (Respondent 1)

In addition, these food delivery companies also need to make sure that they give freedom to the rider to choose whether they want to be a halal rider or a non-halal rider. This is because sometimes they are not willing to deliver non-halal food to customers. This issue can also be linked to riders who do not comply with the proper handling of halal food. This is very important because it is part of the company's welfare to the FDR.

This can be proven by the answer given by respondent 1 who shared his experience during the registration process as below:

Of course, my suggestion is that the company should give the rider the option to choose whether to become a halal rider or a regular (non-halal) rider. In the past, the company opened the option to choose, but now not anymore. I think this needs to be changed and give freedom to riders to choose their rights. Therefore, delivery partners who are Muslim will be able to ensure that the food ordered by the customer is halal. (Respondent 1)

Therefore, the company needs to take this matter seriously and it important in ensuring that the halal food chain is maintained with proper methods. So, maybe the company can make an immediate action to deal with this kind of thing because the impact is very big on this halal food chain and at the same time it can affect the company's reputation if customers know about this mixing of halal and non-halal food and can cause users of the platform food delivery feel insecure about their food order.

Methodology

In this study, in-depth interviews were conducted with five food delivery riders (FDR) in Bandar Baru Bangi to assess their awareness regarding the separation of halal and non-halal food in the same delivery bag. The participants were selected based on their experience in the food delivery industry. All interviews were transcribed verbatim and analyzed using coding, followed by thematic analysis to identify recurring patterns and insights. Thematic analysis, which is widely applied to qualitative data such as interviews, open-ended surveys, documents, and observations, was employed to capture the breadth of perspectives. In addition, data derived from library research were analyzed using content analysis, a systematic technique suitable for examining various types of materials including texts, images, audio, and social media content. The integration of thematic and content analysis thus provided a comprehensive approach to understanding the issue under investigation.

Conclusion

This study has explored the awareness of food delivery riders (FDRs) regarding the segregation of halal and non-halal food in delivery bags. The findings indicate that while some riders particularly those who are Muslim possess a strong personal awareness of halal principles and actively make efforts to segregate food items, there remains a notable gap in structured training and systemic support from food delivery companies.

1. General Awareness of Halal and Non-Halal Food Segregation

Some FDRs demonstrate individual initiative by checking order contents and applying basic segregation practices. However, relying solely on personal awareness is inadequate in a professional context. Therefore, the following are recommended:

- **Comprehensive Training:** Companies should implement mandatory training programs that include detailed halal food handling techniques. These should go beyond online modules and include practical workshops.
- **Effective Communication with Restaurants:** Restaurants should be required to clearly label halal and non-halal items to avoid confusion and facilitate correct handling by FDRs.
- **Designated Delivery Bags:** Companies should consider using bags with physically separated compartments for halal and non-halal items, including independent ventilation and access points to prevent cross-contamination.
- **Incentivizing Good Practices:** A structured incentive or recognition system should be introduced to reward FDRs who consistently adhere to segregation protocols, possibly including customer feedback mechanisms.

2. Specific Practices and Recommendations

In practice, several riders use double-bagging or separate packaging techniques. To further support effective segregation, the following strategies are proposed:

- **Technological Solutions:** Food delivery apps should integrate halal labeling features to notify riders and trigger reminders about proper handling. Smart delivery bags with sensors or verification systems could also be explored.
- **Regulatory and Industry Collaboration:** Standardized guidelines should be developed in collaboration with halal certification bodies. Third-party halal certification programs for food delivery services may also enhance transparency and trust.
- **Empowering Riders and Community Building:** Peer-to-peer knowledge sharing platforms and customer feedback systems should be encouraged to support continuous improvement.
- **Public Awareness Campaigns:** Educational campaigns and partnerships with religious institutions can help raise awareness about the importance of halal food segregation across the delivery ecosystem.

3. Challenges in Handling Halal and Non-Halal Food

The study also highlights several challenges, including:

- **Fatigue and Workload:** Long working hours and demanding conditions can lead to unintentional mistakes in food handling.
- **Lack of Delivery Options:** The absence of rider preferences for halal-only deliveries can force some to accept orders they are personally uncomfortable handling.

4. Overall Summary

In summary, this study has revealed diverse perspectives and varying levels of awareness among FDRs regarding halal food segregation. While some demonstrate commendable practices, gaps remain in training, enforcement, and systemic oversight. Most FDRs are still able to manage segregation using their own methods, but this should be supported by more formal measures.

As Muslims, upholding halal integrity is a foundational element of the halal food sector. Maintaining halal integrity in logistics is essential for managing the halal food supply chain. Measures must be taken to avoid cross-contamination throughout the food journey (Ahmad & Shariff, 2016). Ultimately, all parties involved delivery companies, riders, restaurants, certification bodies, and customers must work together to uphold halal standards. This cannot be achieved by a single group alone; it requires a collective effort to ensure that halal food remains safe, trustworthy, and compliant throughout the entire delivery process.

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