

# UNDERSTANDING CHALLENGES IN HALAL LOGISTICS IMPLEMENTATION

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**Abstract.** This research paper explores the ongoing challenges within the field of halal logistics, with particular attention to regulatory compliance, operational processes, infrastructure limitations, and the high costs of implementation. As Malaysia continues to position itself as a global halal hub, halal logistics plays an increasingly critical role in supporting both domestic and international supply chains, while simultaneously safeguarding consumer trust in the integrity of halal products. Despite its importance, the sector is hindered by fragmented regulations, lack of standardized practices, inadequate infrastructure, and significant financial burdens associated with certification and dedicated facilities. The purpose of this study is to identify and critically analyze the key challenges faced by stakeholders in halal logistics, including manufacturers, service providers, and policymakers, with the broader aim of facilitating the delivery of high-quality logistics services that fully comply with Islamic principles. Employing a qualitative methodology, the research systematically reviews scholarly articles, books, and conference proceedings to capture existing knowledge and perspectives on the subject. The findings not only highlight pressing issues but also emphasize the need for collaborative efforts, innovation, and stronger policy frameworks to enhance halal logistics practices. Ultimately, the study contributes to advancing knowledge and strengthening Malaysia's competitiveness in the global halal economy.

**Keywords:** *halal logistic, challenge, regulatory, implication, Malaysia*

## Introduction

The increasing Muslim population has led to a growing demand for halal products and services. Initially, the focus was primarily on halal food, as it attracts Muslim consumers by ensuring cleanliness and compliance with religious dietary laws (Fuad et al., 2023). As awareness of halal products has grown, Muslims have become more attentive to the halal status of various goods and services. Halal logistics has emerged as a crucial industry, recognized for its potential to boost economic competitiveness. In Malaysia, the government sees halal logistics as an opportunity to enhance the country's standing in the global market. Similarly, Western nations are experiencing a rise in demand for halal products and logistics (Rahman and Ali, 2024). The benefits of halal logistics, particularly for Muslim consumers, are driving the industry's growth and increasing its appeal. In Islamic principles of supply chain management, halal logistics is defined as managing the movement, storage, and handling of goods to ensure that the entire supply chain complies with halal (permissible under Islamic law) standards. Kasim et al. (2017) observed that halal logistics involves various activities and is not solely focused on food purchase and consumption. Notably, thousands of services and products produced internationally follow varying halal procedures, including certification, symbolism, and logos. With numerous studies highlighting the growing interest among consumers and government initiatives for halal logistics, it is crucial to understand the challenges producers face in providing the right services to meet industry and Muslim community demands. Iberahim et al. (2012) noted that studies on halal logistics should focus on RFID and its application to web-based halal information services. However, these studies do not directly address the reliability of logistics

service providers, such as supply chain management. Thus, this paper will focus on the challenges faced by the halal logistics industry in both the past and present states.

### *Literature review*

#### *Halal logistics in Malaysia*

In Malaysia, halal logistics should comply with Malaysian Standard (MS) 2400, whereby the process of planning, implementing, and managing the efficient, unified flow and storage of halal-certified raw materials, halal semi-finished or halal-finished goods from source to demand must be recognized with halal logistic standard throughout the process. Halal logistics is not different from the conventional logistics activities of controlling the production, transport, storage, and handling of commodity components, however, the term halal here should be used in the supply chain process whereby the process for handling, storage, transition, and control of material components procedures must comply with Shariah (Tieman, 2013). In many industries, the government plays a significant role in positioning Malaysia as an international halal hub. However, halal logistics is even more crucial in ensuring the provision of halal and tayyib products and services. According to Ismail et al. (2023), the halal industry relies heavily on well-established religious knowledge, which means the government's role in its initial development is relatively minor. Consequently, the Department of Islamic Development Malaysia (JAKIM) oversees the halal industry and provides halal certification to manufacturers and producers that meet Malaysia's standards. Halal certification is an important symbol that represents halal products and services in the domestic and international markets. Selim et al. (2019) observed that the halal logo not only increases confidence in consumers but also helps in increasing good image and revenue for manufacturers of the country.

#### *Halal logistic service*

The practice of halal industries extends beyond manufacturing; it includes transportation and storage processes that adhere to Islamic principles, ensuring compliance from production to retail. The integrity of a product's halal status is susceptible to compromise if contamination occurs during its transportation and storage phases (Zailani et al., 2017). Thus, it shows the importance of ensuring the production until the products meet the end user is aligned with MS 2400 to preserve the halal integrity of products through halal services. Tieman (2011) stated that since logistics links the production point, where halal certification is obtained, to the consumer purchase point, where halal products are sold, the management of halal product logistics is crucial for maintaining their integrity at the point of consumption. Analyzing previous research offers a detailed and comprehensive understanding of the existing challenges within the halal logistics sector. This allows for a well-rounded perspective on the issues at hand. In addition, this paper aims to focus on the challenges in halal logistics in Malaysia, addressing key issues on regulatory, operational, infrastructure and resources and cost implications.

### **Materials and Methods**

This study adopts a qualitative research methodology, relying on a systematic review of scholarly journal articles, conference papers, and other academic sources related to

halal logistics in Malaysia. The qualitative approach was selected as it enables an in-depth exploration of complex issues such as regulatory frameworks, operational practices, infrastructure limitations, and cost implications within the halal logistics sector. The data collection process involved review of existing literature published in peer-reviewed journals, books, and reputable reports. The inclusion criteria were as follows: (i) studies focusing specifically on halal logistics and supply chain management in Malaysia; (ii) articles addressing challenges such as regulatory, operational, infrastructure and resources, and cost-related issues; and (iii) empirical or conceptual studies published in English. Studies focusing solely on halal food without a logistics context were excluded to maintain research relevance. The selected articles were then critically analyzed through a thematic review process. Key themes and patterns were identified, grouped, and categorized into four main areas of challenges: regulatory, operational, infrastructure and resources, and cost implications. This systematic and thematic approach ensures that the review not only synthesizes existing knowledge but also provides a structured framework for understanding the multifaceted challenges of halal logistics in Malaysia.

## **Results and Discussion**

As mentioned earlier, the discussion on the challenge will be divided into four sections and will briefly discuss the challenges faced for each section.

### ***Regulatory challenges***

Regulatory challenges are significant in the halal logistics sector, governed primarily by MS2400. Similar to other segments of the halal industry, logistics operations face hurdles due to diverse certification standards. Research indicates that MS2400, while essential, is often too general, leading to multiple interpretations of its guidelines. For example, these guidelines encompass the production, preparation, handling, and storage of halal products, causing ambiguity and inconsistencies in their application (Zailani et al., 2017). Furthermore, Malaysia's regulatory framework involves multiple agencies, each with distinct roles in implementing and overseeing industry operations. This multiplicity can result in overlapping responsibilities and inconsistencies, potentially undermining the overall goal of maintaining halal integrity (Iberahim et al., 2012). The lack of standardized practices among market players further complicates adherence to halal logistics standards. Additionally, Talib et al. (2015) noted a disparity in governmental support, with halal logistics receiving less promotion compared to the halal food sector, despite both being crucial national agendas. This disparity indirectly contributes to a lack of industry discipline in upholding established halal logistics standards. Okdinawati et al. (2021) mentioned that certifications, policies, and halal standards form the foundation of halal logistics and provide strong recognition of service quality. Strengthening halal traceability systems can be achieved through effective supply chain management policies. Strengthening halal traceability system can achieved through effective supply chain management policies. In halal logistics, strict segregation between halal and non-halal goods during transportation and warehousing is critical to fulfilling the requirements of Malaysian Halal Certification Procedure Manual (MPPHM), the Malaysian Halal Management System (MHMS), MS2400-1:2019, and MS2400-2:2019.

A validated halal logistics system should not only prevent contamination but also establish proactive corrective measures to mitigate or minimize risks to halal products (Voak et al., 2023). Based on study by Rizki et al. (2023), the development of dedicated infrastructure requires strong government attention and support. The government plays a vital role in facilitating the growth of halal logistics by providing the necessary infrastructure. Adequate facilities are essential to ensure the effective implementation of halal logistics (Haleem and Khan, 2017). Key components of halal logistics infrastructure include halal-certified transportation operators, specialized warehouses and storage facilities, as well as ports and terminals designed to handle halal products. For instance, Indonesia has already established a halal port, which strengthens its halal industry ecosystem. Such infrastructure is crucial for promoting an efficient and effective halal logistics system. In the context of Malaysia, the government has also taken initiatives to enhance halal logistics through the development of dedicated halal industrial parks and the promotion of halal-certified logistics providers under JAKIM's certification framework. These efforts position Malaysia as a global halal hub, but further investment in specialized infrastructure such as halal ports and dedicated terminals could significantly strengthen the country's competitiveness in the international halal supply chain.

### ***Operational challenges***

Maintaining the segregation of halal and non-halal products throughout the supply chain is a significant operational challenge. This segregation must be rigorously enforced in storage facilities, vehicles, and during handling processes. According to Jaafar et al. (2016), achieving the status of halal tayyib products requires that every step in the supply chain adheres to Islamic practices, not just focusing on production alone. Similarly, in the food industry, ensuring food cleanliness is crucial until it reaches the end consumer. Gunardi (2023) emphasized the importance of special transportation to protect halal logistics, reducing the risk of cross-contamination and simplifying the delivery process for consumers. This action necessitates not only physical segregation of halal and non-halal items but also ensuring that all procedures and practices align with halal standards, involving all organizational parties and incurring costs. Furthermore, ensuring that all organizational parties are knowledgeable about business operations and capable of handling halal matters through training is another significant operational challenge. Lack of awareness and improper training can lead to unintentional non-compliance, compromising the halal integrity of products. Moreover, fulfilling various halal certifications can be perceived as tedious and burdensome for every role within the halal organization (Ahmad et al., 2017). Overcoming these challenges requires dedicated focus and integrity from all involved parties to ensure smooth operations and reduce management synchronization risks. In addition, adopting technological solutions such as digital traceability systems and automated monitoring can further support compliance by providing transparency and real-time tracking across the supply chain. Collaboration between regulators, industry players, and educational institutions is also essential to foster continuous improvement, ensuring that halal logistics practices remain efficient, cost-effective, and aligned with Shariah principles.

### ***Infrastructure and resources***

In discussing halal logistics, the halal warehouse is a compulsory factor to be considered too. Moreover, there is often a shortage of halal logistics infrastructure, such as warehouse and transport facilities. To maintain the halal status, it is necessary to store the halal goods within a certain time frame (Hafizan and Karim, 2021). This step ensures the halal good is not exposed to haram elements. Tieman (2015) stated that the status of halal products will be lost if any direct contact occurs between halal and haram products. Besides that, it has been identified that manufacturers faced challenges in providing the occupied warehouse for halal products only because of the high operating costs. In Malaysia, most of the factories have been built ready-used warehouses that do not adhere to the Shariah perspective which will incur the cost of remodeling to Shariah principles (Ismail et al., 2023). Therefore, managing infrastructure and securing halal resources for the halal supply chain is directly one of the challenges faced by manufacturers in halal logistics. Effective management is vital for the successful implementation of halal logistics. All parties involved must adhere to halal practices, requiring strong commitment not only from top management but also from employees. Weak management practices raise concerns about cross-contamination during distribution, which may lead to consumer hesitation in purchasing halal products. In addition, many organizations remain unprepared to fully comply with halal logistics requirements, as decision-makers often continue to rely on conventional logistics operations. Hence, the active support and commitment of senior management are crucial to ensuring the effective adoption of halal logistics services (Zailani et al., 2017). Strong leadership is also needed to establish clear policies, allocate sufficient resources, and enforce compliance across all levels of the supply chain. Without continuous monitoring, training, and improvement, the risk of operational inefficiencies and non-compliance increases, potentially damaging consumer trust and the organization's reputation in the halal market.

### ***Cost of implications***

The implementation of halal logistics entails significant costs, which encompass establishing dedicated infrastructure, ensuring strict compliance with halal standards, and meeting various regulatory requirements. Logistics costs, as highlighted by Ballou and Srivastava (2007), are pivotal in supply chain management as they constitute a substantial portion of total expenditures. Companies committed to adhering to halal standards must invest heavily in specialized warehouse facilities designed to maintain the integrity of halal products, alongside obtaining halal certification, which involves rigorous auditing processes and ongoing compliance checks (Kasim et al., 2017). These investments often require substantial capital expenditure. Moreover, the study identifies a challenge where manufacturers operating under halal standards may find it difficult to offer competitive pricing for their services and products. The higher operational costs associated with halal logistics, including infrastructure and certification, can constrain their ability to lower prices, potentially impacting their competitiveness in the market. Moreover, logistics providers seeking to adopt halal practices often face substantial costs in implementing halal-compliant operations. The logistics service providers bear higher expenses in order to meet the required standards and regulations (Sirajuddin et al., 2017). These financial burdens can discourage companies from participating in halal supply chain networks, which rely heavily on an integrated system of suppliers, manufacturers, distributors, and retailers and any disruption within this network can compromise its effectiveness. Husna et al. (2024) found that recognizing halal logistics

involves additional costs and charges, government support through logistics schemes is essential to help providers lower their operating expenses effectively. The field of international logistics faces numerous challenges, such as multiple consolidation points, break points, and varying cost structures. These challenges become even more complex with the implementation of halal practices, which demand strict compliance with halal requirements at every stage of transportation.

### ***Awareness***

Another challenge is the awareness in halal logistics. In halal logistics, awareness can be conceptualized as an information process that enhances understanding of what is permissible for Muslims to eat, drink, and use (Omar et al., 2017). Halal logistics involves physical activities such as storing and transporting, which generate important data for communication and management across the supply chain. At every stage, the application of Shariah principles is essential. This forms the foundation of halal logistics by ensuring the clear separation of halal cargo from non-halal cargo. Such separation helps prevent cross-contamination, aligns the logistics system with the expectations of Muslim consumers, and safeguards halal integrity throughout the supply chain. In essence, halal logistics reflects the practical implementation of Shariah principles within logistics operations (Gunardi et al., 2022). Muslims involved in halal logistics must possess a strong sense of awareness to ensure that all processes are conducted in full compliance with Shariah principles. This awareness is essential in maintaining the strict separation of halal and non-halal goods throughout the supply chain, thereby minimizing the risk of cross-contamination and protecting halal integrity. Furthermore, continuous awareness supported by proper knowledge and training enables Muslim stakeholders to handle logistics operations responsibly and effectively. Such commitment not only guarantees adherence to halal standards but also strengthens consumer confidence in halal products, ultimately contributing to the credibility and sustainability of the halal logistics industry.

### **Conclusion**

Halal logistics and supply chain management are pivotal in safeguarding the integrity of halal products, ensuring compliance with Islamic principles, and protecting the reputation of manufacturers, distributors, and retail chains. This study has shown that despite Malaysia's position as a global leader in the halal industry, the logistics sector continues to face complex and multi-dimensional challenges. Among these are regulatory inconsistencies, operational inefficiencies in maintaining segregation, insufficient infrastructure and resources, and significant cost implications that hinder broader adoption. Overcoming these challenges requires coordinated and sustained efforts among key stakeholders. Regulatory bodies must work towards harmonizing and clarifying halal standards to minimize ambiguity, while industry players should invest in infrastructure and technological innovation to improve efficiency and reduce risks of non-compliance. Likewise, manufacturers and service providers must strengthen internal capacities through training and awareness initiatives to ensure that every aspect of the supply chain adheres to halal principles. Addressing these issues will not only strengthen consumer trust and reinforce Malaysia's reputation as a halal hub but also enhance the competitiveness of halal-certified businesses in both domestic and international markets. A more resilient, transparent, and cost-efficient halal logistics

ecosystem will serve as a cornerstone for the sustainable growth of the halal economy, contributing to Malaysia's broader economic development and positioning the country as a benchmark for global halal supply chain management.

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### **Conflict of interest**

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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