

Optimizing Service Operations in Halal Supply Chains: Challenges, Strategies, and Best Practices

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ABSTRACT

Due to the increasing global demand of Halal products, the management of Halal supply chains (HSCM) has advanced. Yet, the inclusion of service operations management (SOM) in these supply chains is still not well developed. This study has implications for service operations in HSCM and provides a critical review of the challenges, strategic management issues and best practices in improving operational efficiency, ethical compliance and customer satisfaction. Using a general framework, we clarify how service operations play an integral role in ensuring quality, traceability, and compliance in Halal supply chains, and provide actionable recommendations for companies seeking to align their processes with Halal specifications.

Keywords: Service Operations Management, Halal Supply Chain, Halal Certification, Operational Efficiency, Compliance, Supply Chain Transparency, Service Quality

INTRODUCTION

The growing Muslim population and a rise in consumer concern for ethical and religious consumption has led to a surge in demand for Halal-certified products (Nashwan & Al-Emran, 2021). Simultaneously, companies must also ensure that their supply chains fulfil Halal requirements, which refer to the production, processing, and distribution of goods following Islamic dietary standards and ethical principles (Al-Swidi & Al-Hadi, 2016). Process efficiency, quality control, and customer satisfaction-based Service Operations Management (SOM) plays an important role in effectively managing the Halal supply chain. Therefore, implementing SOM principles can help businesses cut down on overhead costs, while ensuring compliance with the selective Halal aspects required by its consumers (A. Ahmad et al., 2020). This method entails tracking each step of the supply chain process: from when raw material is acquired to when the final product is delivered to consumers. With the importance of transparency and trust, businesses can establish trust and loyalty from the Muslim market by emphasizing quality control and with open communication. In doing so they can take advantage of the fast growing Halal market and the demand for ethically sourced and produced products.

However, few academic research has examined how scholars conceptualize service operations management in the Halal supply chain domain (Hassan et al., 2020), despite Halal supply chains being increasingly significant. The literature on the subject is scant, and this article seeks to fill this gap by providing a comprehensive perspective of the role of SOM in optimizing various aspects of the Halal supply chain, namely service quality, logistics, compliance, and transparency. In addition, we provide a conceptual framework for integrating service operations in HSCM, with practical implications for business and policy practitioners. Having insight of the significance of service operations management in Halal supply chains can help businesses to enhance their efficiency and effectiveness in delivering Halal products to consumers. The

framework which, based on (Belkhatir et al., 2009) improves the complete customer journey, but also guarantees that all items follow Halal necessities and stipulations. With these new strategies American businesses will still be in play with the Halal voracious, hungry world market and the transactions will also be trust building for the consumer seeking trustworthy Halal goods and services.

CONCEPTUAL FRAMEWORK FOR HALAL SUPPLY CHAINS SERVICE OPERATIONS

Key stages of the Halal supply chain are: Halal Raw Materials Procurement, Halal Manufacturing Process, Halal Packaging, Halal Storage, Halal Distribution and Halal Retail (Nashwan & Al-Emran, 2021). [Consider service operations management, which will not only encompass the physical product, but also includes the management of intangibles - customer service, compliance monitoring, and coordination of logistics. A strong conceptual foundation of the service offering of Halal supply chain would help companies ensure that each stage of the process complies with Halal regulations. (Haleem & Khan, 2017) This very much includes actively collaborating with suppliers to procure Halal raw materials and practicing tight quality control throughout manufacturing process and storage through proper labelling to avoid contamination. This trust is built through not only the product in a tangible form, but also in the service in an intangible form, providing a foundation for consumers to believe in them (Mohamed et al., 2020). Such an all-encompassing approach to service operations help businesses stand out in the global Halal market, giving them a competitive edge.

A Framework of Halal Supply Chain

A Halal supply chain should maintain Halal certification from the initial source until the product reaches the customer. Certification bodies reference such as JAKIM (Malaysian Department of Islamic Development), GCC (Gulf Cooperation Council) standards, and the MUI (Majelis Ulama Indonesia) are key Halal compliance verifiers (Omar & Musa, 2020). Instead, break down the supply chain into the key processes:

- **Raw Material Procurement:** The source of raw materials should be halal-certified and also free from any haram (forbidden) items (pork, alcohol, etc.). As an example, the halal meat supplied to the company was obtained from suppliers who had been certified by halal certification bodies like JAKIM as part of halal supply chain for food products (Sulaiman et al., 2021). All the ingredients would also be processed and have no Haram process catering to Halal Muslim supply chain needs.
- **Production and Processing:** Production must meet certain Islamic practices (for example, a certain way to slaughter animals for meat) As an illustration, for cosmetic Halal supply chain, a firm will procure halal-certified raw materials and intermediates from the upstream and certified suppliers by a Halal certification service provider as in the context of plant-based oils (Sin et al., 2019). Additionally, the company would make sure that the manufacturing process adheres to Islamic guidelines, including using proper testing and cruelty-free manufacturing techniques. Also, the company must ensure that no alcohol-based ingredients can be used in the production of cosmetics, because alcohol is forbidden in Islam (Tukiran & Anuar, 2022) (Tukiran & Anuar, 2022). This involves reviewing all labels and confirming with suppliers that Halal compliance is maintained through the supply chain.
- **Logistics and distribution:** Storage and transport facilities must separate Halal and non-Halal (2023). For instance, a cosmetics company targeting Muslim consumers might create different sections in their warehouses with separate Halal/non-Halal storage to avoid contamination. They can also find business collaborations with Halal distribution logistics providers to maintain Islamic guidelines in their supply chain (N. A. A. Rahman et al., 2018).
- **Retail and Service Delivery:** Authenticating Halal claims and proactively disclosing product information to consumers. For example, a restaurant that claims to serve Halal food can prepare Halal food in a separated area in their kitchen to keep the authenticity, separate from different content (Zulfakar et al., 2014). They might also offer detailed ingredient lists and certifications to their customers to be transparent and garner the Muslim community's confidence.

Service operations in halal supply chains

Whereas HSCM service operations focus on the direct services (e.g., delivery of a product), and indirect services (e.g., certification, compliance and traceability) in the HSCM process. The key service operations in Halal supply chains are as follows:

- **Service Quality:** Availability of Halal products according to consumer expectations. This also involves ensuring strict quality control from farm to table to prevent contamination or substitution of non- Halal ingredients. The pursuit of service excellence is another reason why service operations are critical to the success of Halal product delivery systems as they enable time- and cost-effective delivery, allowing products to be at their freshest and best quality when they reach customers (Mohamed et al., 2020). Focusing on service quality in Halal supply chains will help the businesses create the customer satisfaction and loyalty for their business in the Muslim Community. In response, a Halal meat manufacturer might require much stricter monitoring and auditing steps throughout all phases of creation to be able to make sure everything utilized is Halal-certified (Mansur et al., 2017). They also partner with credible logistics companies to make sure their products are delivered within time frame to the retailers and consumers without violating Halal element of its supply chain.
- **Compliance Management:** Manage compliance of all supply chain and other related activities with Halal certification. This involves regular audits and continued training of employees about Halal practices such as monitoring suppliers (Noordin et al., 2014). When companies focus on compliance management, they can earn trust from their customers of a Muslim background by proving their commitment to being Halal. In the long run, this not only leads to more sales, but also strong word of mouth within the community, reinforcing their position as a trusted and ethical Halal producer. For instance, a Halal meat processing company would establish rigorous compliance management processes to guarantee that all suppliers observe Halal slaughter standards and regulations. Suppliers would be regularly audited in both facility and process to ensure compliance with Halal certification standards (Omar & Rahman, 2018). If the company implement compliance management system transparently and thoroughly then Muslim consumers would be sure about the authenticity and integrity of their products, resulting in customer loyalty and good reviews in the Halal community.
- **Traceability:** Ensuring full transparency and traceability of products along the path from origin to final consumer — including certification status. Consumers can therefore be assured about the Halal status of any product they are buying, as they will be able to trace each ingredient from its origin to its final form (Rashid & Bojei, 2019). This would allow the company to educate Muslim shoppers who care about Halal on where the product came from and how it was treated. They are committed to this openness and honesty, as it distinguishes the company at market to be able to guarantee Halal products. As an example, a company may place QR codes on their food products that can be scanned to obtain comprehensive information on the product's Halal certification, as well as the product's journey from production to distribution (A. A. Rahman et al., 2016). It provides consumers with the chance to make informed decisions and a peace of mind that they are purchasing Halal products.
- **Customer Engagement:** The process of dealing with consumers to cultivate trust and loyalty toward the brand (Hassan et al., 2020). By keeping the customer involved with the information easy to access, a sense of trust and loyalty could be established amongst the consumer base. Not only does this aid in holding current clients, but also draws in new ones that is looking for openness and honesty in their halal products. In the long run, this approach to customer engagement may help the organization in being recognized as a trustworthy and credible link of Halal products in the market. A halal food company, for example, can use social media to connect with customers by sharing behind-the-scenes videos about its production process and answering customer inquiries in a timely manner (Manaf & Yusof, 2021). This open-ended and empowering engagement creates trust between the company and its audience, thus making the audience feel that they play an important role in shaping the brand.

SERVICE OPERATIONS CHALLENGES FOR HALAL SUPPLY CHAINS

The integration of service operations in Halal supply chains presents a number of challenges, particularly related

to regulatory compliance, logistics, and consumer trust. Inconsistencies of Halal certification of products and processes; complexities in transport and storage of Halal products without the risk of cross-contamination; ensuring effective communication with consumers in terms of the authenticity of Halal products (Notice of Retraction: The Importance of Training for Halal Logistic Industry in Malaysia, 2023). Further, firms with Halal supply chains would also have to meet requirements of different regulations in each region of the world. Nonetheless, companies that navigate these challenges can emerge as leaders in the Halal market and establish a reputation for quality and reliability (Bahri & Ali, 2022).

Regulatory Compliance and Certification

However, there are hurdles to face such as, for example, the issue of standards: there are a multitude of Halal certification depending on the country. The requirements of certification differ widely, leading to a variety of confusion for both the supplier and consumer (Hassan et al., 2020). In addition, regular audits and inspections are carried out to maintain certification, increasing operational footprint and necessitating such service operations systems that can monitor adherence to quality and inform of any deviations (Mohammed & Zheng, 2017). Using Halal certification provides a business its edge in their target market as Halal is a broad niche market which focuses on the Muslim population by having the proper training and resources the companies will be able to cut down the unnecessary certification process while also being able to build trust amongst the consumers who value Halal products (Salindal, 2018). However, do note that, conforming to regulation & then obtaining certification will ultimately afford the company's reputation as a reliable player in the Halal market. A halal meat supplier in Malaysia, would have different certification standards for the export value chain to Indonesia versus the one to Saudi Arabia, for example. These activities might include ensuring that slaughter, storage, and delivery methods are tailored to meet the needs of each of these markets (Raffi et al., 2023). By having a central system where these certifications can be checked and monitored, many businesses can avoid a potential compliance issue.

Halal Logistics and Segregation

Halal logistics refers to the process of making sure that Halal and non-Halal products remain separated when they are stored, transported, or processed (Ali et al., 2019). For enterprises operating on a global scale managing a wide variety of products, this creates logistical challenges. HALAL Specialised Halal distribution centres, transport vehicles and maintenance of Halal integrity through quality assurance systems throughout the supply chain. This involves high levels of coordination and operational management (Tarmizi et al. 2014). That being said, the advantages of preserving Halal integrity are vast, enabling companies to access the expanding Halal industry and earn the trust of Muslim clientele. By following Halal logistics and segregation practices, organizations can show they are dedicated to meeting both religious diet legal and ethical standards. Moreover, adopting these practices can also reduce the risk of contamination and guarantee compliance with Halal certification standards, thus, increasing the business's prestige and competitiveness in the international arena. One could be a food manufacturer that may opt for the establishment of Halal logistics procedures in its production facility to ensure that all the ingredients and products are prepared as per Islamic food laws (Haleem et al., 2021). This entails separating Halal items from non-Halal items, utilizing specific equipment for Halal production, and performing frequent audits to ensure adherence. This can help the firm in appealing to Muslim consumers looking for Halal-certified products as well meeting the challenge of being secured in Halal sector.

Customer Expectations and Transparency

Today's consumers require greater visibility when it comes to the sourcing and certifications behind Halal goods. Transparency from the service operators on the nature of the product being delivered, along with the certification, compliance records, etc. However, offering this degree of transparency can be resource-

demanding, needing blackout mechanisms and effective customer communication (Al-Swidi & Al-Hadi, 2016). But third-party risk management systems and processes take time to develop and resources to maintain, so these investments are often seen as a burden instead of an opportunity to build consumer trust and loyalty. Transparent sourcing and certification of Halal products can help companies to develop an image of quality and integrity in the Muslim market. This can result in repeat business, positive word-of-mouth referrals, and a competitive advantage over companies that do not disclose their Halal practices (Z. Ahmad et al., 2020). As the Halal industry grows, consumers become more knowledgeable about where their products come from, and need a clear answer about whether or not they are halal. A Halal food company that transparently communicates sourcing and certification of meat is an example of getting Muslim consumers, who care about ethics, to be your consumers (Mohayidin & Kamarulzaman, 2014) The company can also highlight this transparency in their marketing efforts to differentiate themselves from competitors and attract a loyal customer base who value Halal principles.

Technological Integration

New data-driven technologies like blockchain, Internet of Things (IoT) and Artificial Intelligence (AI) are increasingly applied to manage Halal supply chains. The use of these technologies, however, brings challenges relating to cost, implementation, and employee training (Omar & Musa, 2020). This is essential to augment operational efficiency and traceability in Halal supply chains by effectively implementing these technologies. For example, the effective utilization of these technologies in the supply chain management segments of Halal businesses can provide higher levels of transparency and trust among consumers (Rashid & Bojei, 2019). Then, we will gain the market competitiveness besides being Halal compliance. By investing in the proper technology and training for employees, Halal businesses can simplify their operations and keep up with the ever-increasing demand for Halal products around the world. As an illustration, a Halal meat producer can harness the blockchain to trace the entire journey of their products from farm to table, providing the consumers with complete transparency and authenticity (Tan et al., 2020). Moreover, incorporating Internet of things (IoT) devices into their storage facilities will enable them to monitor temperature and moisture levels in real-time to ensure the quality and safety of their Halal products (Tarmizi et al., 2020).

HALAL SUPPLY CHAINS SERVICE OPERATIONS BEST PRACTICES

These challenges can be solved using some best practices which can be followed to optimize halal supply chains services operations.

Standardization of Certification Processes

By working closely with globally accepted Halal certification bodies, businesses can also reduce complexity at their end, and ensure uniformity and standardization across the certification process (Hassan et al., 2020). Standardized practices encourage lower regulatory burden and clearer compliance have helped organizations facilitate faster and more systematic compliance across various jurisdictions. Strong collaborative ties with certification organizations, which can be difficult to forge but also offer significant benefits, help companies expedite certification and ensure that their offerings conform to the requirements (Green et al. 2016). This can aid in minimizing the expenses involved with certification, as well as improving trust and credibility with consumers. Standardized practices allow businesses to navigate the myriad of complexities within Halal supply chains, improving the overall service package, thereby resulting in better operations leading to overall improved customer perceptions and satisfaction (Azhari 2017). A food manufacturer who wishes to export Halal food to different countries may contact Halal certification bodies in the respective countries to ensure compliance. Implementing open lines of communication and utilizing standard practices would help the firm to facilitate the certification process and prevent possible delays or rejection at customs (Noordin et al., 2014). This strategy not only reduces overheads and increases margins, it enhances the company image by increasing brand trust in the international Halal domain, by appealing to buyers who demand both truth and transparency regarding the provenance of products they purchase.

Traceability Using Technology

The deployment of blockchain technology would create a permanent, publicly accessible ledger that would trace each step in the supply chain starting from the extraction of raw materials to the final stages of distribution. This ensures that products can be traced back to their origin and certification, which helps foster trust in the consumer (Ali et al., 2019). IoT sensors are similarly applied to storage monitoring to ensure no contamination takes place, further protecting Halal processing integrity. With this type of technology led traceable product integrity in place, brands can cement their reputation as authentic, and this reinforces trust amongst consumers who desire transparency in their food choice decisions (Jasman & Ariffin, 2021). Combining blockchain and IoT sensors enables the brand to trace the products end-to-end for Halal integrity, giving customers assurance before purchasing. By doing this, the brand distinguishes itself due to traceability and quality in the global Halal market, making itself the leading brand. Such as a Halal meat producer they can apply the Blockchain into their products and track the entire journey their products make from the farm to the consumer's table. This system could integrate IoT sensors in transportation to monitor and maintain the required temperature and humidity levels, thus making sure the meat remains fresh and uncontaminated throughout the supply chain. This high level of monitoring not only provides consumers with confidence in the Halal product, but also enables the brand to timely identify compliance issues that may arise in the production and distribution (Belkhatir et al., 2009).

Lean and Agile Practices

What can be done to improve Halal supply chain performance is the combination of lean principles to eliminate waste and fill processes, along with agile practices, which will provide a source of information for human interventions to be more flexible to respond to changes in consumer demand. This allows for efficient operations while still being able to respond quickly to changes in the market or regulatory environment (Al-Swidi & Al-Hadi, 2016). These practices make sure that the Halal products that companies are producing and distributing promptly. This enables retailers remain up with the changing market and advances the performance of the supply chain (2015). This could help companies to retain its image for authenticity and quality in the Halal market by being ahead of consumer demand and regulatory push. In another example, a Halal food company can adopt lean manufacturing principles for waste reduction and production efficiency together with agile supply chain practices for a fast adjustment to changing Halal certification requirements (Manzouri et al., 2014). In doing so, they can guarantee that their products not only satisfy consumer desires but also fulfil regulatory requirements, ultimately strengthening their brand and competitiveness within the Halal sector.

Training Employees and Awareness of Halal

All the key people working at a Halal facility should be trained on Halal and Compliance Procedures regularly as it ensures operational success. The workers must be aware of the moral and religious dimensions of Halal accreditation and the operational approaches required to take care of accomplishment and repair excellence (Nashwan & Al-Emran, 2021). Employees will be guided to follow Halal work processes for ingredients hunting, preparation, and serving food. Investing in employees reporting and training as well as promoting Halal awareness throughout (Omar & Rahman, 2018) the organization can effectively showcase the commitment of businesses to authentically and genuinely Halal products. This will foster trust among consumers and keep the organization competitive in a bustling Halal marketplace. Such as, a restaurant chain may conduct regular workshops and training for their kitchen staff regarding halal food preparation practices and handling & certification requirements (A. Ahmad et al., 2020). Such separation of physical spaces with Halal and non-Halal food items ensures that the dishes served during an event do meet the Halal requirements, while also preventing any contamination of food with non-Halal external ingredients. This allows the restaurant to gaining the attention of more Halal-conscious consumers and standing out from the competition as a trustworthy source of genuine Halal dishes.

CONCLUSION

Within Halal Supply Chain Management, the Service Operations Management is very important since it guarantee efficiency, compliance, and transparency. In order to realize the growing demand for Halal with distinct services operation practice, the above stated practices will help to achieve consumer demand expectations within the Halal marketplace. In adopting best practices like certifying standard processes, integrating technology and training employees, organizations can augment their Halal supply chains and establish long-term trust with customers. For example, a specific counterexample could be a Halal restaurant that advertises strict adherence to Halal regulations, but receives a surprise inspection from a certifying body that uncovers multiple violations. Despite the best efforts on the part of a service provider to implement service operations management practices, such as employee training and certification based on standardization, it is the lack of transparency and compliance that eventually leads to a loss of customer trust and confidence in the market. Therefore, future studies should investigate the application of such approaches and innovative technologies that can optimize service processes in Halal supply chains.

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