Halal Food Supply Chain Practices: A Conceptual Framework based on Conventions Theory

Saeed Abdalla Ahmed Almelaih Alfzari
Universiti Teknologi Malaysia (UTM), Malaysia

Siti Zaleha Bte Omain
Universiti Teknologi Malaysia (UTM), Malaysia

Abstract---Halal is a dietary guideline practised by Muslims. Halal is viewed as a seal of approval for food quality that cannot be easily verified by consumers prior to, during, or after eating. As a result, Halal certification serves as a useful tool for consumers to make educated purchasing decisions. Halal food and beverage supply chains relate to the process of managing halal food and beverage items from manufacturing to consumption, involving multiple partners in the SC networks. This study examines the significance of Halal Food Supply Chain features in the UAE market, as well as consumer trust and satisfaction. This study examined the supply chain in the United Arab Emirates, with an eye toward the future impact of HFC systems on customer perceptions of halal food practices.

Keywords---United Arab Emirates, Halal supply chain management, consumer trust, customer satisfaction.

Introduction

Current market conditions arise from supplier concentration, hypercompetitive practises, and strong negotiation power. As a result of these upgrades, retailers must rethink their competitive tactics to attract and retain customers (Wan Omar, 2017). Retail is getting more competitive due to shifting market conditions and client needs. Consumers want well-stocked shelves, fresh food, and better service through promotions (Zulfakar, Chan, Jie, & Sundram, 2019). The grocery retail industry is becoming more competitive due to market consolidation and improved purchasing conditions for retailers, resulting in lower sales prices. This heightened competition has new ramifications (Zailani, Iranmanesh, Aziz, & Kanapathy, 2017).
Religion is another factor that influences shopping decisions. As an example, the Islamic faith forbids alcohol and swine meat. Muslims eat according to their religious beliefs and only halal items (Anwar, 2018). Halal is a Quranic term for legal, lawful products in Islamic philosophy. Halal-conscious customers value the halal idea and try to connect their actions and decisions with it. Halal should also consider Muslim customers’ spiritual needs and Islamic values. Halal includes animal slaughter, storage, presentation, preparation, cleanliness, and sanitation, as well as food and non-food items (Chyi & Tenenboim, 2017).

Consumption of Halal foods is important, but so is every stage and activity throughout the supply chain. It shows the importance of halal supply chain to the retail halal sector. There have been numerous attempts to raise awareness about the importance of halal food, including halal food supply chain (HFSC), halal logistics, halal packaging, and halal transportation. Academics also contributed to the topic of halal cuisine through surveys, research, and analysis (Kusrini, 2018; Mostafa, 2018; Soon, Chandia, & Mac Regenstein, 2017). Management of halal food supply has numerous challenges. Due to the difficulties of delivering halal food, numerous issues of halal integrity and status arise (Zailani, Jafarzadeh, Iranmanesh, Nikbin, & Selim, 2018).

Customers of halal food are becoming more aware of the need of halal certification and are asking questions about the supply chain to ensure their purchases are truly halal. While the issue of halal integrity has gained much attention in current halal industry, and the elements determining HFSC (Khan, Haleem, & Khan, 2018). To identify elements that contribute to HFSC integrity and consumer satisfaction in today’s complex food trade environment and establish a conceptual framework for the UAE market, this study was conducted.

**Problem statement**

The halal market has boomed in recent years, both in Muslim and non-Muslim countries. Not only in Muslim countries but also in Muslim majority or minority areas such as Europe and South America, meat and poultry products, processed meals, and medications are in demand. Non-Muslim populations are also increasing demand (Adiba, 2019; Ismail, Abdullah, Ahmad, & Sidek, 2018; Karim, Nawi, Razak, Marmaya, & Ridzuan, 2018; Wilkins et al., 2019). Customers of halal food, particularly Muslims, are becoming more aware of their food purchases. They are preoccupied on halal food additives, but also on the supply chain, on whether the goods they bought were actually halal (Haleem & Khan, 2017; Riaz & Chaudry, 2018). Their assumptions are valid, given most foods consumed today come from all over the world. Aside from the distance and journeys required to handle food, the legality of the halal labelling from the substance’s suppliers remains under question. This is especially true for halal meat, as most halal meat exporters are non-Muslim nations like Australia, Brazil, and New Zealand. Escalating concerns about halal beef and its supply chain. It has increased academic and business involvement in the HFSC’s operations. To sustain halal ideals and integrity across the supply chain, halal commodities must be created with accepted quality attributes and tight regulations.
However, Muslim clients are more mindful of halal difficulties when purchasing and eating halal food. They want to be sure that the food they buy and eat is completely Islamic (Ali et al., 2017). This study's goal is to assess the HFSC’s integrity and customer satisfaction in the UAE. Food consumption in the UAE grows by roughly 4% annually (ElMellegy et al., 2017). The UAE’s federal government oversees HFC standards and food safety, defining basic rules for sanitary and safe food production. Despite these obstacles, the UAE is actively pursuing food imports, food safety, and HFC to meet the requirements of a diverse economic and cultural population. A major supply chain challenge in the halal food industry is interoperability. As a result, Muslim clients are concerned about non-Muslim imports such raw meat from Australia and Brazil. Other Muslim majority countries, including Malaysia, have similar regulatory requirements and consumer concerns (Randeree, 2019). Because only certified halal certifiers are allowed to export to the UAE, numerous products from non-approved certifiers cannot be imported. This study’s major goal is to assess the value of halal integrity in the UAE market.

**Halal Food Supply Chain (HFSC)**

Food and beverage supply chain (SC) are becoming increasingly complex, and Muslim customers are concerned about both the ingredients and the manufacturing method (Maifiah, Ahmad, & Iskandar, 2020). These supply chains cover the handling of halal food and beverage commodities from the point of origin or raw material source to the point of sale, encompassing various segments from raw material producers to end-users. Food and beverage products must be safe and certified halal by following Sharia's general rules from source identification to delivery, marketing, and order management (Rejeb, Rejeb, & Zailani, 2021).

Lot of research was done before the SC Halal Food and Beverage Program was formed (Abderahman, Karim, & Kevin, 2021; Salleh, & Harun, 2020). Despite the fact that multiple studies analyse customer satisfaction, little research has been done on the relationship between halal food and beverage supply chains and marketing initiatives. Also, much of the preceding studies uses halal SC. Additional research is required in food safety and halal administration, particularly for quantitative analysis of processed foods and beverages (Abd Rahman et al., 2017; Fayezi et al., 2019; Shafiq et al., 2017; Supian, 2018). Currently, many halal regulations have been enacted but have not been sufficient to assure halal consumption. To ensure global availability of halal food items, a fully integrated and well-managed SC management structure must be established and executed (Hair et al., 2019).

**Halal food supply chain practices**

A review of the halal food management literature shows that the halal supply chain has received less attention (Haleem et al., 2020; Mohamed, Abdul Rahim, & Ma’aram, 2020). Marketing challenges such customer awareness, halal product perception, and purchase behaviour are addressed in most halal food literature (Ashraf, 2019; Awan, Siddiquei, & Haider, 2015; Elseidi, 2018; Karoui & Khemakhem, 2019; Khan, Akhtar, Ansari, & Dhamija, 2020; Soon & Wallace, 2017).
Based on previous literature eleven aspects HFSC practices were defined (Azmi, Abdullah, Bakri, Musa, & Jayakrishnan, 2018; Masudin, Fernanda, & Widayat, 2018; Zainuddin, Mohd Saifuludin, Deraman, & Mahidin, 2019; Susanty, Puspitasari, Jati, & Selvina, 2021). These practices are comprised of physical segregation, training and personnel, storage and transport, ethical practices, packaging and labeling, material handlings, innovative capability, cleanliness, safety, Islamic dietary law and resource availability.

**Physical Segregation:** This is a solution that is included in the Market Planning Article (Slack, Chambers & Johnston 2020). It is critical to eliminate any potential pollution signals from the manufacturing process of halal products (Riaz & Chaudry 2018). Increased security guarantees that halal commodities cannot be blended with non-halal items or facilities in close proximity to retain halal status throughout the supply chain cycle. Halal items, particularly those with an inappropriate mark, are extremely prone to contamination unless they are cleansed, preserved, and stored separately. Previous research and several halal product standards have demonstrated the critical necessity for physical isolation of halal products to avoid any stable, purposeful or incidental interaction with components that might jeopardise the halal state (Tieman 2017, Talib, Ali & Jamaludin 2018; Lodhi 2019).

**Training and Personnel:** According to Mondy and Mondy (2017), training is a component of workforce development and human resource production. Workers should invest more time in preparation to enhance existing competencies and create new ones, resulting in healthier working conditions and a stronger future. Employee development is vital because employees want to be motivated by the acquisition of advanced skills and outcomes that result in the development of a competent workforce.

**Storage and Transport:** Halal transportation and food safety demand extra attention across the global food supply chain (Lodhi 2009). To avoid contamination by non-halal commodities, every halal food that is dried, dried, packaged, sold, and served should be graded and separated in accordance with Malaysian regulations at each step of distribution. Riaz and Chaudry (2018) recognised the most crucial components of Halal food safety as packing, transportation, and distribution methods. Sheds or outbuildings are frequently utilised for storage and transportation purposes. Proper storage is necessary to maintain the consistency of Halal food (Omar, Jaafar & Osman 2018). To begin, the packing quality of fresh meat has a considerable impact on the performance and safety of the meat (Bonne & Verbeke, 2018). Tieman, van der Vorst, and Che Ghazali (2017) underline the need of allocating specific storage rooms or racks for halal food and avoiding mixing halal and non-halal products in the same cold room.

**Ethical Practices:** Halal commodities must be processed ethically and in accordance with Sharia law. The following ethical standards apply: being socially responsible, upholding animal welfare, imparting edible characteristics, adhering to Islamic financing, and getting free trading features. (Mohamad & Hassan 2019), Al-Qaradawi (2017) emphasised the Permissibility Principle, which applies to all human activities and behaviours, not only conventional subjects and
concerns. Nonetheless, the halal business has significant challenges in locating healthy farmers that successfully engage in fair trade and are ecologically mindful along the supply chain (Sungkar 2019). According to the norm, transactions must be regarded legitimate if they are reached by mutual consent of the parties involved, however the usage and charging of unjust pricing constitutes an act of intimidation and is prohibited in Islam (Mohammed 2018). Producers are effectively prohibited from utilising unsafe items or engaging in criminal practises that jeopardise customers. Only ethical principles may be used to describe the HFSC’s implementation positively.

**Packaging and Labelling:** The naming and branding of consumer goods are critical stages in the HFSC cycle. Equitable marketplaces and precise labelling of imported products are required by Islamic law. Therefore, it is vital to comprehend the method of labelling and the process of labelling as a genuine and healthy halal product (Ab Talib & Mohd Johan 2018). Islamic law prohibits the concealment of certain facts, such as the provenance of items, on product labels (Lodhi 2019). The information given in halal food goods must be accurate and include the whole source of all components, including incidental or hidden substances that may impact the drug’s halal status. In actuality, the organization’s recognised certification insignia and contact information must be displayed.

**Material Handlings:** According to Jaafar et al. (2011), Halal food items would have to be manufactured, packaged, and monitored in a number of ways. Only halal processing is permitted to be utilised in conjunction with machinery for all system processes (Nakyinsige et al. 2017). Halal products cannot be required for non-halal items’ modified tools and systems. Additionally, it should be created and expressly comprised of all equipment, utensils, and development support utilised in the preparation of halal cuisine (Standards Malaysia 2019). During training, tools and machinery should be cleansed and ritualised in accordance with the Sharia Code of Law’s prohibited standards. Additionally, vendors must supply specific equipment to verify the food’s halal certification is adequately safeguarded.

**Innovative Capability:** Innovation is a different approach to something, or “the availability of alternative ideas” (McKeown 2008). Imagination, from an organisational standpoint, entails the successful implementation of novel technology within the business (Amabile et al. 1996). Innovation may also be associated with success and development via expansion, efficiency, size, strategic positioning, and market share (Guan & Ma 2013; Chen & Paulraj 2014). Effective planning firms tend to possess a unique set of skills and knowledge (Quintana-Garca & Benavides-Velasco 2015).

**Cleanliness:** Purity is one of the most important aspects of human life. This can be characterised as a clean condition or a clean grasp on one’s possessions (Cambridge Dictionaries Online). Islamic education emphasised cleanliness not just in terms of clothing, architecture, and the surrounding environment (Abdul Rahim 2015), but also in terms of eating (Riaz & Chaudry 2014). One of the most critical ideas to adhere to is the Christian ethic of integrity and morality in order to build a just and equitable society and world. Nonetheless, the Quran
emphasises the fundamental notion of innocence and purity in the following way: "Whoever purifies it prospers, and whoever corrupts it is gone" (Surah Al-Shams: 9-10).

**Safety:** Consumers and food professionals are well aware of the importance of obtaining high-quality results (Badrie et al. 2016). Health is becoming a main concern and a primary factor in the development of a diverse array of competitively priced food items. Additionally, food should be safe, delectable, and cosmopolitan (Wilcock et al., 2014). Concerns about foodborne infections have increased globally in recent years, as have continuous battles over food safety standards and compliance (Aung & Chang 2014). Foodborne illness applications Numerous major diseases that affect people throughout their lives, ranging from diarrhoea to various types of cancer, are caused by contaminated commodities (Aung & Chang 2014).

**Islamic Law:** Religion has a significant influence on people's views, morals, behaviour, and dietary habits (Ireland & Rajabzadeh 2019; Kordnaeij, Askari postpon & Bakhshizadeh 2018; Wilson & Liu 2018). According to Riaz and Chaudry (2014), Islam is not merely a collection of rituals, but also the set of norms and directions that govern Muslim life. Food and food labelling were vital to Muslim society. As stated in the Hadith (Collection of Prophet Muhammad’s Teachings) (Elseidi, 2018), the Holy Qur'an contains particular laws about food law in the instance of a Muslim: these are the two primary sources of Islamic food law.

**Resource Availability:** Assets contribute to a business's competitive advantage, including market identity, enhanced consumer recognition, a cost structure that is favourable, technical competence, R&D experience, credibility, and patents (Oliver 1997). Additionally, assets may be thought of as supply chain inputs, including capital gear, individual worker knowledge, patents, and brand names (Grant 1991, p. 118). Purchases should be made in a structured atmosphere, since they will be matched with common combinations and will be difficult for the consumer to resell (Mathews 2016).

**Consumer trust**

Consumer trust in the halal food value chain has been a key issue in recent years (Hobbs and Goddard, 2015; Kaiser and Algiers, 2017; Kjrnes, 2006; Kjrnes et al., 2005; Sapp et al., 2009). They identify three factors that trust can impact business performance: (1) trust is required for SC partners to obtain information, respond positively to market changes, and reduce risk; (2) trust enhances business success and profitability among SC partners; (3) trust establishes a long-term SC relationship.

In a world where food products are being marketed as healthy, sustainable, and authentic, a lack of trust in food chain actors undoubtedly contributes to a loss of consumer confidence in their capacity to make informed food choices (de Jonge et al., 2007). Food credibility features include healthfulness, sustainability, authenticity, and safety (Fernqvist and Ekelund, 2014, Verbeke et al., 2013). In social science, trust is a major determinant of client satisfaction and desirable behavioural outcomes (Karmer, 1999; Poortinga and Pidgeon, 2003). Previous
research revealed a link between perceived risk and trust. Customer trust is also influenced by business and service providers' treatment, reputation, attitude, and honesty (Artigas et al., 2017).

Because customer trust is clearly a significant component in changing behaviour, it is crucial to understand its genesis, constituents, and effects. Efforts have been made to define, conceptualise, and measure customer trust (Coveney, 2007, Kjrnes, 2006, Kjrnes et al., 2005, Mazzocchi et al., 2008, Poppe and Kjrnes, 2003). A number of experts suggest that customer trust has economic and societal implications for businesses (Gwinner et al., 1998; Mimouni-Chaabane & Volle, 2010). Because loyal customers regularly repurchase a company's items, particularly pricey ones (Ngobo, 2016). So, building trust is a strategic goal in all service (Gustafsson et al., 2005; Cooil et al., 2007). So many researchers have tried to figure out what makes people loyal (Zeithaml et al., 1996).

**Customer satisfaction**

Customer satisfaction is intrinsically connected to how customers evaluate their purchases. These acts include word-of-mouth dissemination, repurchase intent, and positive feedback to the firm. These consumer habits are linked to brand loyalty. Masudin, Fernanda, and Zulfikarijah (2018) found that consumers may switch products due to price, inconvenience, service failure, or ethical concerns. Dissatisfaction with the service's quality or other features.

Mentzer et al. (2004), Lai et al. (2009), and Hartono et al. (2010) explain the link between SC performance and customer satisfaction. They claim that improving product quality through SC activities will increase consumer satisfaction. In other words, SC performance affects customer loyalty. Firms, on the other hand, must comprehend the market value of SC. Muslim countries like the UAE need halal items, which require halal SC. Halal meat certification begins with feeding halal food to calves and ends with halal meat displays in traditional and modern marketplaces. A strong halal SC performance will improve halal meat quality and Muslim client satisfaction. As shown by Kumar et al. (2013), Aktepe et al. (2015), Kaura et al. (2015), and Islam et al (2016), the halal food supply chain's major goals are to assure customer satisfaction and maintain halal product quality.

**Conventions Theory (CT)**

Convention's theory (CT) was employed as a theoretical underpinning in this study to understand HFSC practises. CT has been widely implemented in the food supply chain to date (Vannoppen, Van Huylenbroeck & Verbeke 2004; Straete 2004). This theory has been applied to the manufacturing of processed foods and drinks, including chocolates (Cidell & Alberts 2006); wine (Ponte 2009); salted fish (Lindkvist & Sánchez 2008); and yoghurt (Murdoch, Marsden & Banks 2000), in order to validate the theoretical foundations of those research. The theory is characterised as "a collection of procedures and rules governing the content of product requirements, the responsibilities of third parties, product differentiation and labelling techniques, and also utilised for defining and recognising product quality and resolving quality uncertainty concerns" (Bonne & Verbeke 2008, p.37). Additionally, the theory indicates that distinct rules and standards apply at
various locations along the food chain, depending on the category or regime (Murdoch, Marsden & Banks 2000; Ponte & Gibbon 2005). To obtain a high-quality HFSC, for this study, only four categories of CT were selected:

Commercial Conventions: Evaluated by commercial quality of goods such as capability to innovate, methods of production, processing along the chain, selection of equipment, standardisation and minimising cost.

Public Conventions: Public and consumers’ concern on trademark, brand, reliable packaging and labelling of products.

Civic Conventions: Products are high in quality if produced in an ethical and/or environmentally friendly way.

Industrial Conventions: Evaluated as per standardisation of physical characteristics as the most important factor in determining quality of products. In this study, CT provides a strong foundation to explain how HFSC practices has been defined by the underlying dimensions in table 1.

Table 1: Linkages between CT categories and dimensions of HFSC practices

<table>
<thead>
<tr>
<th>CT Categories</th>
<th>Dimensions of HFSC Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial conventions</td>
<td>Innovation capability</td>
</tr>
<tr>
<td></td>
<td>Physical segregation</td>
</tr>
<tr>
<td></td>
<td>Material handlings</td>
</tr>
<tr>
<td></td>
<td>Storage and transport</td>
</tr>
<tr>
<td>Public conventions</td>
<td>Packaging and labelling</td>
</tr>
<tr>
<td>Civic conventions</td>
<td>Ethical practices</td>
</tr>
<tr>
<td>Industrial conventions</td>
<td>Cleanliness</td>
</tr>
<tr>
<td></td>
<td>Safety</td>
</tr>
<tr>
<td></td>
<td>Islamic dietary law</td>
</tr>
</tbody>
</table>

Table 1 presents the linkages of the similarities between the theory’s categories and the dimensions of the study. Therefore, the majority of the dimensions that have been selected to define the HFSC practices by this theory.

Conceptual framework

In this section, this study develops a conceptual framework of consumer trust and consumer satisfaction for halal food supply chain practices. In accordance with the majority of the literature, trust as something one has in people or organizations. For example, trust as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another”. Trust is assigned to other people or to organizations consisting of people.

Muslim consumers are more aware of a halal issue that arises during the purchase and consumption of halal food. They want to be assured that the food they purchase and consume is a true manifestation of Islamic principles (Ali et
al., 2015; Rahman et al., 2017b). It is crucial to ensure the halal integrity of food products, and therefore it is believed that halal customers can be the best judge of halal food supply chain practices.

In the case of customer satisfaction has been widely interpreted within the expectation–disconfirmation paradigm. Within this paradigm, consumer prior expectation and product performance may affect their satisfaction or dissatisfaction toward halal food supply chain practices. Consumer satisfaction is determined based on consumers perceived performance. In the halal food supply chain practices context, halal manufacturers’ beliefs regarding the halal assurance services, halal service diversity and halal service procedure may influence consumers’ satisfaction. Apart from these antecedents, the conceptual framework (Figure 1) suggests that consumers trust on halal food supply chain practices mediates the relationship between these variables. Trust refers to the evaluation of products and services, in terms of good or bad and important or unimportant, of the halal food supply chain practices. The conceptual framework presents 4 main hypotheses that have been explored to define the relationship between the driving forces behind consumers satisfaction.

Figure 1. Proposed conceptual framework
H1: Halal Food Supply Chain Practices significantly effect Consumer Satisfaction

H1a: Physical Segregation significantly effect Consumer Satisfaction
H1b: Training and Personnel significantly effect Consumer Satisfaction
H1c: Storage and Transport significantly effect Consumer Satisfaction
H1d: Ethical Practices significantly effect Consumer Satisfaction
H1e: Packaging and Labelling significantly effect Consumer Satisfaction
H1f: Material Handlings significantly effect Consumer Satisfaction
H1g: Innovative Capability significantly effect Consumer Satisfaction
H1h: Cleanliness significantly effect Consumer Satisfaction
H1i: Safety significantly effect Consumer Satisfaction
H1j: Islamic Law significantly effect Consumer Satisfaction
H1k: Resource Availability significantly effect Consumer Satisfaction

H2: Halal Food Supply Chain Practices significantly effect Consumer Trust

H2a: Physical Segregation significantly effect Consumer Trust
H2b: Training and Personnel significantly effect Consumer Trust
H2c: Storage and Transport significantly effect Consumer Trust
H2d: Ethical Practices significantly effect Consumer Trust
H2e: Packaging and Labelling significantly effect Consumer Trust
H2f: Material Handlings significantly effect Consumer Trust
H2g: Innovative Capability significantly effect Consumer Trust
H2h: Cleanliness significantly effect Consumer Trust
H2i: Safety significantly effect Consumer Trust
H2j: Islamic Law significantly effect Consumer Trust
H2k: Resource Availability significantly effect Consumer Trust

H3: Consumer Trust significantly effect Consumer Satisfaction

H4: Consumer Trust mediated the relationship between Halal Food Supply Chain Practices and Consumer Satisfaction

Conclusion

Recently, the image of the Halal food industry has been tarnished due to increasing number of fraud Halal certification and physical contamination of Halal food products. Halal food consumers started to question the authenticity of the Halal practices of the Halal food products that they consumed especially products that came from non-Muslim majority countries. This study has taken a broad look at halal food supply chain and issues pertaining Halal practices in this field. This study offers a conceptualization on factors influencing Halal practices based on a literature review process. It also offers other researchers a review of existing literatures regarding Halal food supply chain, which is yet available so far. The main purpose of this study is to provide a literature review on Halal food supply chain management and issues pertaining to Halal practices. This study also provides the conceptual framework on the study regarding factors affecting Halal food supply chain practices. Future work might improve this framework by taking a closer look at other factors that can influence the integrity of Halal supply chain practices. Such studies might allow specific features to be investigated in greater detail. Other aspects of publication such as from the research methodology perspective might also be explored in future studies by other researchers to fill the knowledge gap in this subject matter.
References


