

DETERMINANT FACTORS OF QUALITY ASSURANCE IN HALAL FOOD INDUSTRY

Norina Ahmad Jamil¹, Irwan Ibrahim², Afizan Amer³, Noor Fadhiha
Mokhtar⁴, M. Hussin Abdullah⁵

1. Faculty of Business and Management, Universiti Teknologi MARA 2. Malaysia Institute of Transport, Universiti Teknologi MARA, 3. Malaysian Academy of SME & Entrepreneurship Development, Universiti Teknologi MARA 4. Universiti Malaysia Terengganu. 5. Universiti Sultan Azlan Shah

✉ corresponding author: irwan623@uitm.edu.my

Abstract : Recently, as the demand for *halal* food grows, halal certification operations in the food industry have developed rapidly in recent years. As a result, the *halal* food industry has a huge and lucrative market. Companies establish *halal* quality assurance as a condition for obtaining halal certificates. The purpose of this paper is to provide a literature review and a conceptual framework on the study for the determinant factors of quality assurance in *halal* food industry. The result of determinant factors that affected the quality of *halal* food consists of five factors.

Keywords: quality assurance, halal food industry, determinant factors

1.0.INTRODUCTION

1.1.Halal Food Industry

Ensuring the hygiene, cleanliness is critical in *halal* food industry as it is the key to good health and well-being of humans. In order to fulfill quality requirements, food industries are demanded to accommodate and maintain the global benchmarks such as ISO9000, HACCP, and SOPs. The doctrine of *halal* is spread through every aspect of life including in the field of business management and trade. High demand of *halal* certified food shows that it can be marketed overseas and widely accepted by multi-religion country (Mohamed et al., 2013). Therefore, it is important for food producers to secure *halal* food certification in order to operate in the highly lucrative *halal* food market (Abdul-Talib and Abd Razak, 2013)

Study by Chamburi and Batt (2015) emphasised the criteria of consumer expectation as freshness, cleanliness, price wise and *halal* which believed to be high quality. The word "*halal*" and "*halalan toyyiban*" has been used interchangeably by the *halal* industry. "*Halal*" is an Arabic word suggesting a situation of an object or action is permitted according to Sharia (Islamic) law. While, "*toyyiban*" means good to be eaten if it is referring to food. This can be simply explained as junk food is *halal* for the content but it does not qualified as *toyyiban* as it is unhealthy and definitely lead to many health issues as a result of over consumption.

The high amount of bad fats, sodium, and chemical substances such as preservatives which always linked to numerous risk to human-being. It is important for a Muslims to comply with Sharia, therefore *halal* assurance system is one of the most important standards to comply in determining the state of *halal* of a product and at the same time do not contain chemical substance that can put human health and life in danger

as to fulfil the aspect of *toyyiban*. In recent days, the awareness of consuming *halal* food has already acknowledged by every consumer regardless of their religion. They think that *halal* food is safe as it is focus on shelf life, hygiene, quality, freshness and wholesome product.

1.2. Quality Assurance

Quality assurance (QA) plays a big role in ensuring that the product or services meet certain standards of acceptability, QA plan, direct or coordinate programs and policies. Halal quality assurance practice can be distinguished through several key areas such as product development and validation, control points, flow charts, corrective care development, control measures implementation, document management systems and records, halal guidelines database, *halal* process verification and traceability.

Chaudry et al. (1997) conducted research on halal assurance systems based on the “three zeros” or zero limit (no use of banned substances in production), zero defect, and zero risk. According to Othman et al. (2015), he classify the fact that *halal* assurance elements are made up of several important elements such as traceability, *halal* assurance control, laboratory analysis, product recall, and critical point.

In the global food industry, enacting a quality assurance system can help a company's competitiveness (Karipidis et al., 2009). The objective of using standards as a management tool in companies is to encourage and serve as indicators of business process effectiveness and efficiency.

As different schools teach in Islamic practise, the varied standards that exist throughout the organisation are different and inevitable. As a result, developing a ‘one-size-fits-all’ worldwide *halal* food standard that can be adopted by everyone engaging in *halal* food-related activities is impossible (Evans, A., 2011). According to Abu Omar, Z., (2008), the accomplishment of obtaining publicly recognised *halal* standards will require significant compromise on the side of all certification agencies that have previously performed according to their own criteria. Despite the fact that distinct sets of standards exist all throughout the world, these standards still enforce Islamic Sharia compliance.

According to Ghazali and Sawari, 2014, to obtain a halal certificate in Malaysia, companies must implement a halal assurance system that include an internal mechanism such as halal monitoring, control, improvement, and prevention (Department of Islamic Development, 2012).

They will be able to tell that the products have been produced in accordance with Shariah law by the presence of a halal certificate and logo. To put it another way, the product is halal-compliant and can be taken without hesitation. ‘Halal logo/certificate is an authorised, impartial, and dependable witness to support halal food claim,’ according to Riaz, M.N. (2010). The halal certificate must, however, be granted by a respectable certification institution to avoid any abuse or wrongdoing (Riaz, M.N, 2010).

Among the benefits of obtaining a halal certificate on a product, according to the Halal Monitoring Committee, as described by Rajagopal, S., (2011), include gaining customer confidence, extending existing markets, and improving sales techniques. In this highly competitive industry, Rajagopal, S., (2011) says that halal certification can be used as a new marketing strategy for different items than others. Furthermore, halal certification lessens the barrier to entry into the halal market, expands the range of halal products, and ensures quality assurance (Bonne, K. and W. Verbeke, 2008). Hughes, K., (2008) discovered that halal certification expands the number of prospective markets into which a company can expand.

Generally, the *halal* assurance system is based on the concept of Total Quality Management (TQM) that combines consumer demand, dedication, improvement without cost increase, and the production of goods without correction, refusal or waste and inspection (Ghazali and Sawari, 2014).

1.3. Ethical Issues

Ethical issues is another determinant factor of quality assurance in *halal* food industry. The implementation of quality assurance must also take into account the ethical issues in addition to *halal* assurance system. Ethical issues includes environmental issues such as pollution from farming waste, animal cruelty, and food contamination. Besides from that, fair trade attributes may also one of the ethical issues that need to be highlighted. There are limited studies that analysed the relationship of halal quality assurance and ethical issues, therefore this study will cover two elements of ethical issues such as environmental related and fair trade practices. The principle of permissibility is not only restricted to things and objects but also lies on human behaviours and activities (Al-Qaradawi, 2007). A study expressed that consumer are concerns about ethical issues such as animal welfare, fair trade, and the environment (Harper & Makatouni, 2002). These concerns are the main reason of them becoming vegetarian and support the movement against exploitation of developing countries producers.

Pollution. In intensive farming industry, the usage of agrochemicals was not properly controlled and discharged into the environment and eventually giving negative impact. (Mariyono, Kuntariningsih, Suswati, & Kompas, 2018). An important step must be taken to reduce agrochemical waste by enhancing the farmer's knowledge, bringing new agronomy technology, and replacing agrochemical with organic fertilizer.

Food contamination. Consumers also concerns on harmful chemicals used in food production such as pesticides, antibiotics, additives, excess amount of fat, salt and sugar in food. Food producers are prohibited to use harmful ingredients or engage in unethical conduct that may possibly compromise well-being of consumers.

Animal cruelty. Study by Harper & Makatouni (2002) also found that almost all natural buyers were not happy to consume meat from non-organic animal and fed through intensive farming methods. In Islam perspective, cruelty toward an animal is a sin. The Quran had given many examples and guidance on way to treat animals. Therefore, the

food industry should also consider animal welfare as one of the factors in halal quality assurance.

Fair trade. Ethical producer who involved in fair trade and socially accountable within the whole business players do compose a serious concern in the halal industry (Irfan, 2010). Practically, transaction made through by each of two or more parties is considered as legal as long as there is no inappropriate disproportionate and over price charged (Mohammed, 2013).

2.0.PROBLEM STATEMENT

The certification issue of *halal* has been a concern to all parties corresponds to halal development in the food industry. (Robin., 2004) expressed that absence of knowledge, awareness and understanding of the *halal* concept among consumer and food industries will lead to loss of respect to *halal*. This includes the absence of knowledge among human capital, lack of commitment by the organization, obsolete technology, lack of dedicated assets, segregation system and the practiced *halal* quality assurance itself. (Talib et al., 2015) expressed that food manufacturers have restricted knowledge in halal implementation. Past research has also found that the halal industry rely mainly on implied knowledge which is obtainable on day-to-day basis. One of the most challenging processes of applying *halal* certificate for food companies is to adopt new procedures and rules following re-standardization. Companies who have been in business for a long time should give more attention to the details of the rules. Research by Jumaaton., (2011) says that many entrepreneurs think that the procedure by JAKIM is a bit tight. Malaysia Halal certification Procedure Manual in their third revision has gained reactions from various parties, mainly industry players. (Department of Islamic Development Malaysia, 2014) Among the main points, it is stated that the internal *halal* assurance committee in the food industry must include Muslim Executive as a need in establishment. This is vital for a non-indigenous company as they are not experts in sharia and would likely view *halal* certificate as a commercial tool without emphasizing on pure implementation of *halal* assurance on religious basis. A study conducted found that some consumer perceived *halal* as free from pork and alcohol (Malaysian Halal Industry Market Report, 2012).

Other than knowledge, food industries is seen taking quality alone without considering *halal* assurance as a basis in food processing. Sheer quality alone is less sufficient to assure that it is shariah compliance. According to a study, (Prabowo et Al., 2015), under conventional quality system, "quality" is a process that is based on human consensus as opposed to *halal* assurance system which taking divine teachings of the Quran and other Islamic law as a guideline. Hence, the food industry should emphasis on the implementation of *halal* assurance system which follows the guidelines provided by the authority. Meanwhile, halal assurance practice should be applied in parallel to the knowledge in *halal* according to shariah through commitment. Due to lack of commitment and responsibilities, some organizations were penalised in a way of premise closure, withdrawal of certificates and so on. The monitoring and enforcement work has shown many businesses had failed to maintain certification through non-compliance notice issued. Between January to December 2013, a total of 126 inspection were found to commit various degrees of offences (Department of Islamic Development Malaysia,

2012). Study by Muhammad et al., (2009) expressed that, to put global *halal* on quality assurance as important factor rather than good and efficient marketing strategy. This statement was supported by a study conducted by Wilson and Liu (2010) that the true meaning in *halal*, strategic practice and strong ethical management need to be emphasized in *halal* food industry. In view of this, study of ethical issue as determinant factor in *halal* food industry especially in quality assurance practice should be brought to light. The previous study focus is only on knowledge and commitment (Othman, Shaarani and Bahron, 2016) and critical factor in *halal* food supply chain (Omar and Rahman, 2015). There are also studies that highlight determinant factors in halal food industry but differ in terms of situation. Therefore, this study is focused on evaluating key determinant factors in quality assurance and ethical issues that arise in *halal* food industry.

Past literary works mostly discussed on knowledge and commitment in assuring quality of *halal* food. Nevertheless, the academic publication concerning ethical issues that determine the success of quality assurance of *halal* food industry is still very limited.

Ethical Issues are brought to concern by the attempts to improve productivity, distribution and utilization. The reliability of man on plants and animals for *halal* food needs proper operation in consideration of environmental factors. This review reveals common points between ethical and *halal* food because attention is pointed towards the processes and products and the way the consumer perceives *halal* food as quality assured and safe. Process of innovation has developed and accelerated by new technologies. However, this has cost and create a risk to the environment. Ignoring environmental issues during the process and contribute to dangerous phenomena in nature such as wastage, pollution, lack of animal welfare, species distinction and many more.

Quality assurance is an important tool that can be a key to resolve the environmental issues and reduce hazards from harmful products. Environmental issues might become a concern among the consumers and might cause loss of respect on *halal* food manufacturer if not being taken care of. Hence ethical issues in regards to environmental hazard should be a determinant factor of new standardization process of quality assurance in *halal* food industry.

3.0.LITERATURE REVIEW

Determinant factors that affects the quality assurance in *halal* food industry can be divided into a few categories by taking into account of many researchers' perspectives. Based on our main article and supported by other studies, there are five determinant factors that has been identified, namely human capital, commitment, technology, process capability, and ethical issues.

3.1.Human Capital

Human capital refers to skills, habits, knowledge, and experience possessed by an individual in the ability to perform and contribute to the economy as a whole. It is important for companies in order to achieve their mission and remain competitive and innovative. These suggest that the staff and personnel has to be trained and they should

be aware of the importance of making ethical decisions at work by taking into account the Islamic perspective and law (Rehmen, 2015). Hassan et al. (2015) also pointed out that the knowledge on halal dietary is still below average and requires updates on the latest approaches outlined by relevant authority in relation to *halal* assurance. Adequate human resources should be allocated properly for implementation of good *halal* food chain and enable to innovate. Malaysian Standard MS1500:2009, requires every personnel to have knowledge on *halal* to ensure halal assurance practice is in compliance to Shariah and Islamic view.

In the management community, the definition of human capital embraces all human resource initiatives to recruit, develop and retain employees (American Management Association, 1991). While Stewart (1997) emphasizing that HC's primary purpose is innovation in a new product, service, or business process. Edvinsson and Malone (1997) consider that HC is the "combined knowledge, skill innovativeness and ability of the company's individual employees".

3.2.Implementation of control measures.

As mentioned earlier, this is important to ensure *halal* assurance quality practices been followed accordingly. To ensure the process of production, effective control measures implementation has a significant impact on the production of halal products and its quality. Effective control measurement may reduce appropriate measures in accordance with Malaysian Standard or any relevant *halal* requirements. At this point, it can be explained as follows:

1. *Control procedure*: The process includes several key steps. First, control the time and temperature to ensure the products are safe. Second, calibration of measuring device, for example temperature, time, and weight measurement. Third, the control of cross-contamination Fourth, the clothes are clean and safe for example safety shoes. Fifth, hazardous measures such as chemical, physical, biological, and *halal* hazards in processing.
2. *Product recall*: Withdrawal of products that do not meet the requirements of *halal* food requirement is possible and industries should be prepared for it to happen. Products that are withdrawn should be either destroyed, reprocessed, or made modifications are dependent on the non-compliance that occurs. A product should be withdrawn if there is a potential presence of forbidden element in the content such as pigs DNA or bacteria that can endanger human health.
3. *Records*: During the audit for halal certification process, all reports should be documented to enable historical tracking and areas of improvement for future development.

3.3.Commitment

The implementation of *halal* quality assurance in an organization must be consistent and continuous through commitment. It is important for an organization to audit the *halal* quality system on a regular basis. The evaluation, identifying non-conformance areas, documenting and build an action plan should be applied by the management.

Halal Policy. The top management of an organization should implement policy and communicate to all stakeholders in written form of statement. The management commitment to consistently produce *halal* products is an important foundation to support the quality assurance implementation in their daily activity. According to a study, one of the obstacles in *halal* assurance system in an organization is that no written policy of *halal* assurance system and many staff and workers did not know the absence or the availability of *halal* policy. (Perdani, Chasanah, & Sucipto, 2018)

Halal management team. Malaysia Halal Certification Body has set out that internal *halal* committee must be Muslims, locals, committed to *halal* management and full time employed. Study by Perdani, Chasanah, & Sucipto (2018) shows that 43% of the workers in small and medium enterprises reported that there was no systematic formation of *halal* assurance committee, while the rest has no idea whether there is *halal* committee being appointed.

Training and education. Malaysia Halal Certification highlight that the management of the organization are required to give adequate and continuous training on *halal* system to the workers. It is crucial for an organization to continuously convey policy and rules to all the workers so that the food production process will follow the required standard set by the authority.

Production facilities. Another important aspect in food production process is the health and sanitation of the workers. The management should check health of employees regularly to prevent contamination into the food through disease. Uses of sterile machines and equipment should also be implemented and providing necessary equipment such as water filter in production process to avoid contaminants such as chlorine. (Perdani, Chasanah, & Sucipto, 2018)

3.4. Technology

In today's business world, technology is crucial to ensure a sustainable competitiveness. Few studies have proven that the relationship between both quality and technology has shown noticeable and observable effects of technological innovation practices (TIPs) on product quality. The results exposed by Xiangyu Wang, Hongyi Sun & Zhen he., (2016) that TIP does certainly positively affects both Normal Quality and Attractive Quality.

Management needs to guarantee that resources are satisfactory such as infrastructure, manpower, machinery and finances and equipment are provided. Department of Statistics Malaysia (DoS, 2009). In this study, the aspects such as resource adequacy, trained-personnel in *halal*, and innovative capability are considered under technology factor-category for quality assurance in *halal* food industry.

Elements of technology that helps the quality assurance in *halal* food industry are the document and records management system. Claimed in clause 6.5 - General Guidelines on *Halal* Assurance Management System (GGHAMS), these features of *halal* business is critical and known to be an obligation. There are of course many problems

related to documentation which are documents that are outdated, inadequate version control, and poor documentation practice.

Hence, the industry of *halal* food needs the terms of reference that consists of key file, guidelines and *halal* manual. There a numerous number of conditions that should be highlighted which is company file, structure and *halal* policy, objectives, and the role of the internal *halal* authority and responsibility, *halal* assurance plans, communication structure, training record, personnel records, management review, and minutes of meetings. All documents should be arranged accordingly. It should be in an organized, well-kept and signed by the personnel who are accountable in the *halal* management. The company's commitment and its role in representing for implementation of *halal* should be accountable for the personnel in charge. Without a good structure of documents and exercise in handling the documents, the quality of *halal* cannot be guaranteed in a regulated industry.

The verification process is another important aspect in technology where it helps in assuring quality of food in the *halal* food industry. An internal *halal* committee is important as stated in clause 6.6 GGHAMS. In this committee it should comprise of checking records and operational compliance. The verification points mean the assessment of whether or not a service, product, or system fulfils with the requirement, regulation, specification, or obligatory condition. It is always an internal process. The major aspects that can be used as a foundation in the verification process has to be done continuously by the industry are ingredients, hygiene and food safety, utensils and equipment, storage, labelling and packaging, transportation, sewage management, process, document, training of corrective action, suppliers, and others.

Furthermore, products that are known to be a "critical product" such as a meat-based ingredients or products and other added raw materials need to be verified cautiously to guarantee that they do not have ingredients that are filthy and fulfil the *halal* requirements.

Moreover, the other aspects of technology which is crucial is the *halal* database as it is for determining of information gaining concerning to *halal*. To meet the standard of the requirements an effective database, it should be seen in assisting and accelerate the certification process of *halal* industry. Product information is also another factor that should be included such as specifications of *halal* risk matrix, information of suppliers, and list of raw material, packaging material list, and other supportive documents that the examiners can be used as references.

3.5.Process Capability.

Process capability includes how the *halal* food products are isolated from non-halal, how the food shall be handled using dedicated equipment and facilities, how they are kept and transported and how *halal* food shall be suitably labelled, packed, and advertised. Food products manufactured for Muslim consumers must fulfil with *halal* standards. The *halal* standards for the food products are the origin, nature, and method of processing of the food product (Bonne & Verbeke, 2008; van der Spiegel et al., 2012). Study shows that Muslim consumers are putting their trust on how the processing phase

was done in relation to segregation of halal and non-halal to prevent the risk of contamination. For Muslim consumers, trust in *halal* food relies to how the food are being processed. During the processing stage, such as display and storage, *halal* products must be separated from *non-halal* products to avert cross contamination (Nakyinsige, Man & Sazili, 2012). The process of packaging and labelling products must also be measured in order to create a wholesome and genuine *halal* product (Ab Talib & Mohd Johan, 2012). There should be no mixing amongst *halal* and *non-halal* goods on a load carrier or in a mutual transportation vehicle (Ngah & Zainuddin, 2012). Moreover, facilities and dedicated equipment used for *non-halal* products should not be used for *halal* products (DoS, 2009). Hence, the problems such as material handlings, physical segregation, storage and transportation, and packaging and labelling are the aspects considered under the process capability factor-category.

For safety and hygiene, a company should introduce the food safety policy in order to ensure that all the products achieve customers' satisfaction and assurance. The manufacturing and processing of bakery and confectionary products should also involve in controlling of raw materials, production and ensuring that the products are harmless for customer. The food safety policies of a company should include:-

1. Dedicated to sustaining the effectiveness of Food Safety Management System (ISO 22000:2005) through monitoring and reviewing of the actual performance of established food safety purposes;
2. Adapt to the legislation, regulation and relevant standard codes related to food safety;
3. Continually progress the operation through implementing effective Food Safety Management System (ISO 22000:2005) requirement while combining research and development;
4. Be the head of product innovation and creativity to guarantee additional commitment to food safety and at the same time always being result oriented; and
5. Keeping the policy at strategic locations and informed to all level of organization. The production workers should be monitored and guided during the entire process to ensure the hygiene and safety aspects are being followed. Every entrance need to also have hygiene inspection whenever the workers go in and out of the premise. Other than that, gloves, apron and sanitizer should be worn and cleaned on a regular basis.

Traceability refers to the ability of a process to be verified through all processing phases including production until distribution of goods to the supplier. Clause 8 of General Guidelines on Halal Assurance Management System (GGHAMS) provides that the food industry must determine to trace source of content, contamination, ingredients, throughout the supply chain process. The trail of historical data of location and content of each product can be tracked using *halal* tracking system (Zailani et al., 2010).

This study is also supported by Food Hygiene Regulations 2009 in Article 10 which suggest that food producers and premises must adopt halal tracking system throughout the entire phase in supply chain.

A good tracking system can give advantage to food industry on their halal quality assurance. One of the benefits it can give is through product tracking which can determine the physical position of every item in a supply chain. This then helps to assist the information of the product's notification to customers fast and effective. Furthermore, the process where it identifies the product can help through the process of recognition and flow of process which is directly related to the physical and chemical factors. Another benefit of a good tracking system is the ability to recognize disease and to determine if a product is affected by a bacteria or virus. It can also determine the genetic DNA of a product. (Riaz and Chandry,. 2004) viewed the importance of technology devices and halal certification laboratories that can guarantee that any products manufactured is safe and conform with Sharia.

4.0.METHODOLOGY

This study uses related publications available primarily conducted through online databases such as databases provided by Emerald, Ebsco, ScienceDirect, ProQuest, and etc. The search are only for related articles published from 2013 until 2019. This study used a research paper on "Evaluation of knowledge, *halal* quality assurance practices and commitment among food industries in Malaysia" as a main article. A literature review is a written summary of journal articles that describes the state of knowledge in the past and present. The outcomes of the book analysis, the dissertation results, and the findings of research that has been published both nationally and globally. The data needed to determine quality assurance determinants in the halal food supply industry. In this study, there is no limit to the population or sampling. To meet the objective of this paper, all information gathered from sources was employed as research materials.

5.0.DEVELOPING A CONCEPTUAL FRAMEWORK

Based on this study, the researchers highlighted the important factors that give impact to the quality assurance in *halal* food industry. For additional knowledge in reinforcing the finding, research by others is also referred using keywords such as quality assurance, *halal* food, halal food industry, determinant factors, etc. that are related to our studies.

The following conceptual framework is proposed. The framework (See Figure 1) will be presented in six parts, which are:

- Quality assurance in halal food industry
- Human capital
- Commitment
- Technology
- Process capability
- Ethical issues

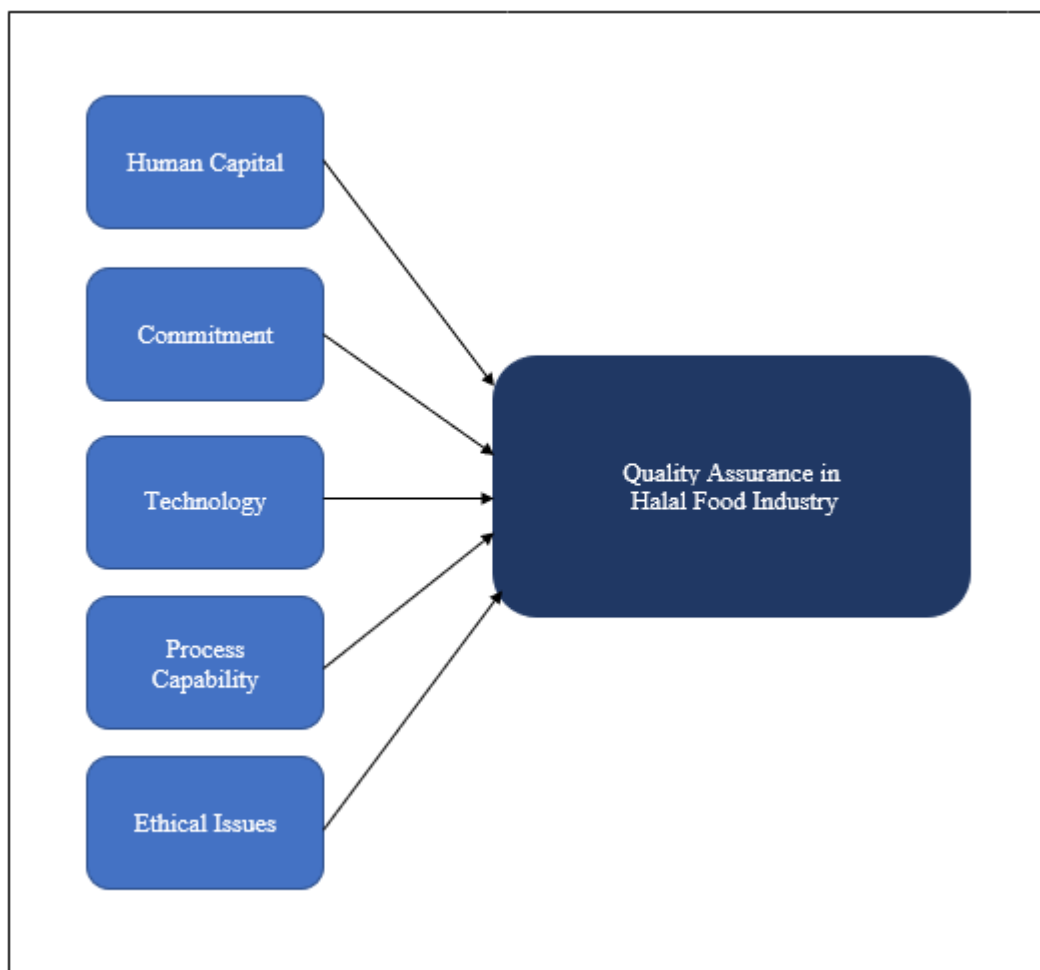


Figure 1: A conceptual framework of the determinant factors of quality assurance in *halal* food industry.

6.0. CONCLUSION & RECOMMENDATIONS

The need for a quality assurance of *halal* food is the basis for *halal* food industry. To assure the quality of *halal* food products, necessary steps such as protective and precautionary measures should be taken. This safeguard is important as it is known that products needs to remain *halal* even though it has travelled a greater distance and undergone numerous handling activities within the *halal* food industry. Since no single party can manage these enormous tasks, all parties involved must assume individual and dual responsibility to protect *halal* food products from cross-contamination, whether intentionally or accidentally.

Factors such as human capital, commitment, technology, process capability, and ethical issues must be given crucial attention in order to guarantee the requirements and well-being in the *halal* food industry as the demand for *halal* for *halal* food product is anticipated to grow even greater in the near future.

Furthermore, initiatives such as future work can improve this framework by looking more closely at the aspects that can influence halal food quality assurance. Such research may facilitate more in-depth exploration of specific aspects. Other aspects of publications, such as research methodology, may be addressed in future studies by other researchers in order to fill the knowledge shortfall in this field.

7.0.BIBLIOGRAPHY

1. Abdul, M., Ismail, H. and Mustapha, M. (2013), "*Halal* food certification: the case of Malaysian SME entrepreneurs", *China-USA Business Review*, Vol. 12 No. 2, pp. 163-173.
2. Ab Talib, M. and Ai Chin, T. (2018), "Halal food standard implementation: are Malaysian firms proactive or reactive?", *British Food Journal*, Vol. 120 No. 6, pp. 1330-1343.
3. Ab Talib, M.S. & Mohd Johan, M.R. (2012). Issues in halal packaging: A conceptual paper. *International Business and Management*, 5(2), 91-5.
4. Abu Omar, Z., The Platform for A Global halal Standard, in *The halal Journal* 2008, KasehDia Sdn Bhd: Kuala Lumpur, Malaysia.
5. Ali, M. H., Tan, K. H., & Ismail, M. D. (2017). A supply chain integrity framework for halal food. *British Food Journal*, 119(1), 20–38.
6. Al-Qaradawi, Y. (2007). *The Lawful and the Prohibited in Islam*. Kuala Lumpur, Islamic Book Trust.
7. Bonne, K. and W. Verbeke, Muslim consumer trust in halal meat status and control in Belgium. *Meat Science*, 2008. 79(1): p. 113-123.
8. Bonne, K., & Verbeke, W. (2008). Religious values informing halal meat production and the control and delivery of halal credence quality. *Agriculture and Human Values*, 25(1), 35-47.
9. Chaudry, M.M., Hussaini, M.M., Jackson, M.A. and Riaz, M.N. (1997), "Halal industrial production standard", My Own Meals Inc., IL.
10. Chamburi, N., & Batt, P. J. (2015). Consumer perceptions of food quality in Malaysia. *British Food Journal*, 117(3), 1168–1187. doi: 10.1108/bfj-08-2013-0235
11. Department of Statistics Malaysia, (2009).
12. Edvinsson, L. and Malone, M. (1997). *Intellectual Capital: realising your company's true value by finding it's hidden brainpower*, 1st edition, Harper Business, New York
13. Evans, A. (2011). Towards a Halal economy: the power of values in global markets. *The Halal Journal*, 26-28.
14. General Guidelines on Halal Assurance Management System (GGHAMS)
15. Ghazali, M.A.-I. and Sawari, S.S. (2014), "Amalan standard halal di negara-negara Asia Tenggara [halal standard practices in south east countries]", *UMRAN-International Journal of Islamic and Civilization Studies*, Vol.1, pp.35-44.
16. Harper, G. and Makatouni, A. (2002), "Consumer perception of organic food production and farm animal welfare", *British Food Journal*, Vol. 104 No. 3/4/5, pp. 287-299.

17. Hassan, M.H., Arif, S. and Sidek, S. (2015), "Knowledge and practice for implementing internal halal assurance system among halal executives", *Asian Social Science*, Vol. 11 No. 7, pp. 57-66.
18. Hughes, K., Market Growth with halal. *Prepared Foods*, 2008. 177(5): p. 129-129.
19. Irfan, S. (2010). Consumer awareness: Thoughts and trends across the globe. *Halal J*, 2, 10-11.
20. Jumaaton (2011), "Ramai tak faham prosedur", *Harian Metro*, March 28, p. 26.
21. Karipidis, P., Athanassiadis, K., Aggelopoulos, S., & Giompliakis, E. (2009). Factors affecting the adoption of quality assurance systems in small food enterprises. *Food Control*, 20(2), 93 -98. doi: 10.1016/j.foodcont.2008.02.008
22. Malaysian Halal Industry Market Report (2012), Egnitia Insights, Egnatia Group, Petaling Jaya, Kuala Lumpur.
23. Mariyono, J., Kuntariningsih, A., Suswati, E., & Kompas, T. (2018). Quantity and monetary value of agrochemical pollution from intensive farming in Indonesia. *Management of Environmental Quality: An International Journal*, 29(4), 759–779. doi: 10.1108/meq-03-2017-0030
24. Mohamad, A.B., & Hassan, H., (2011). The influences of halal integrity on product adaptation strategy for global trade. *International Business Management*, 5(6), 421-426.
25. Mohammed, J.A., (2013). Business Precepts of Islam: The Lawful and Unlawful Business Transactions According to Shariah. *Handbook of the Philosophical Foundations of Business Ethics*, Springer, 883-97.
26. Muhammad, N.N.M., Isa, Md. F. and Kifli, C.B. (2009), "Positioning Malaysia as halal-hub: integration role of supply chain strategy and halal assurance system", *Asian Social Science*, Vol. 5 No. 7, pp. 44-52.
27. Nakyinsige, K., Man, Y.C., & Sazili, A.Q. (2012). Halal authenticity issues in meat and meat products. *Meat Sci*, 91(3), 207-14.
28. Ngah, A.H., & Zainuddin, Y. (2012) Barriers to supply chain adoption among Malaysian halal manufacturers with general barriers as a moderating factor. Paper presented at International Halal Conference 2012, Putra World Trade Centre Kuala Lumpur, Malaysia, 4th-5th September 2012.
29. Othman, B., Shaarani, S. M., & Bahron, A. (2016). Evaluation of knowledge, halal quality assurance practices and commitment among food industries in Malaysia. *British Food Journal*, 118(8), 2033–2052. doi: 10.1108/bfj-12-2015-0496
30. Othman, B., Md. Shaarani, S. and Bahron, A. (2015), "Testing and validating halal compliance for halal compliance", *Proceedings The 2nd International Convention on Islamic Management*, Universiti Malaysia, Kuala Lumpur.
31. Perdani, C. G., Chasanah, N. U., & Sucipto. (2018). Evaluation of halal assurance system (HAS) implementation on bakery products processing in small and medium enterprises (case study in X Bakery Batu, East Java). *IOP Conference Series: Earth and Environmental Science*, 131, 012023. doi: 10.1088/1755-1315/131/1/012023
32. Prabowo, S., Abd Rahman, A., Ab Rahman, S. and dan Samah, A.A. (2015), "Revealing factors hindering halal certification in East Kalimantan Indonesia", *Journal of Islamic Marketing*, Vol. 6 No. 2, pp. 268-291.
33. Rajagopal, S., et al., halal certification: implication for marketers in UAE. *Journal of Islamic Marketing*, 2011. 2(2): p. 138-153.

34. Rehmen, A.M.K.M. (2015), "Bringing Ismaic tradition back to management development, a new Islamic dakwah based framework to foster workplace ethics", *Journal Isamic Marketing*, Vol. 6 No. 3, pp. 1-19.
35. Riaz, M.N. and Chandry, M. (2004), *Halal Food Production*, CRC Press, TX.
36. Riaz, M.N., *Fundamentals of halal Foods and Certification*. Prepared Foods, 2010. 179(1): p. 71-76.
37. Robin, W. A. (2004). *Guidelines for the preparation of Halal food and goods for the muslim consumers*. Putrajaya, Malaysia: AmalMerge.
38. Shahdan, I. A., Regenstein, J. M., Shahabuddin, A. S. M., & Rahman, M. T. (2016). Developing control points for halal slaughtering of poultry. *Poultry Science*, 95(7), 1680–1692. <https://doi.org/10.3382/ps/pew092>
39. Stewart, A.T. (1997). *Intellectual capital: The new wealth of organizations*, Bantam Doubleday Dell Publishing Group, New York, NY
40. Tieman, M., Vorst, JGAJvd., & Ghazali, M.C. (2012). Principles in halal supply chain management. *Journal of Islamic Marketing*, 3(3), 217-43.
41. Wilson, J.A.J. and Liu, J. (2010), "Shaping the halal into a brand?", *Journal Islamic Marketing*, Vol. 1 No. 2, pp. 107-123.
42. Xiangyu Wang, Hongyi Sun & Zhen he. (2016). The impact of technological innovation on product quality: the moderating role of firm size. Vol 29, 2018
43. Zailani, S., Arrifin, Z., Abd Wahid, N., Othman, R., & Fernando, Y. (2010). Halal traceability and halal tracking systems in strengthening *halal* food supply chain for the food industry in Malaysia (A Review). *Journal of Food Technology*, 8(3).