

## Halal Traceability Framework for Halal Food Production

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**Abstract:** Muslim consumers are concerned about the status of Islamic religious requirements of products and services. The producers' ability to trace the beginning to end processes will gain the confidence of the consumers that the whole processes from the production, processing and distribution of the products are Shariah-compliant. Halal traceability provides further information about which Halal standards have been applied, allows the consumer to verify the Halal claims and ensures that the product delivered to the customer is thoyyib (wholesome, healthy, safe, nutritious and of good quality). This paper seeks to develop a Halal traceability framework for Halal food producers based on Halal traceability deployments in a Halal certified food production company. The case study method is employed to learn about the initiatives of the company in relation to traceability of Halal food production. Based on the experience of the studied case, a framework is generated that Halal food producers can refer to as a proper guideline to ensure Halal compliance along the production, transportation and distribution system. The framework has theoretical interest for replicability to other Halal food producers.

**Key words:** Halal traceability • Halal food production • Halal certification • Syariah Compliance

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### INTRODUCTION

ISO 1995 defines traceability as the ability to trace the history, application or location of an entity, by means of recorded identifications [1]. Three main dimensions for improvements from the application of traceability are; food safety assurance, safety and quality and risk prevention [2]. The significance of food risk concern and coping strategies has also being highlighted by Yeung and Yee [3]. Application of traceability in Halal food production is at a new stage due to its infancy of large scale production of Halal products. The Halal industry is a new growth sector in the Malaysian manufacturing sector and is the fastest growing global business across the world [4]. It is also an emerging market force that is attracting non-Muslims with its wholesome, hygienic and contamination-free principles in food production. Research by the World Halal Forum Secretariat estimates that the global value for trade of Halal food and non-food products is estimated at USD2.3 trillion (excluding

banking) and 67 percent (USD 1.4 trillion) of this market comprises of food and beverages. A further USD 506 billion is from pharmaceuticals and USD 230 billion is from cosmetics and pharmaceuticals [5].

According to Mohamed (2011), Halal foods are food permitted under the *Shariah* law which fulfills conditions, namely (a) does not contain any parts or products of animals that are non-Halal to Muslims or products of animals which are not slaughtered according to *Shariah* law; (b) does not contain any ingredients that are najis (filth or unclean) according to *Shariah* law; (c) is safe and not harmful; (d) is not prepared, processed or manufactured using equipment that is contaminated with things that are najis according to *Shariah* law; (e) the food or its ingredients do not contain any human parts or its derivatives that are not permitted by *Shariah* law; and (f) during its preparation, processing, packaging, storage or transportation, the food is physically separated from any other food that does not meet the requirements stated in items (a-d) or any other things that have been decreed as

najs (filth or unclean) by *Shariah* law [6]. From the requirements for Halal food production, traceability is critical to manufacturers, producers and distributors to provide products that are *Shariah*-compliant that is also produced in accordance to health and safety requirements. This is because there must be a flow or framework to be followed to ensure that all products are in accordance with the standard. In Halal food production, more often than not, the certification dimension is widely discussed and extensively regulated, but other elements are minimally practiced. However, practicing a complete traceability system will facilitate the company in applying for Halal certification.

As of to-date, limited established framework are available for Halal food producers to refer to as different companies have different ways and procedures to measure their products' quality, system and others. Although standards and guidelines currently in adoption such as GMP, HACCP and SIRIM could be used to evaluate cleanliness, safety, efficiency and effectiveness of system, producers' thorough traceability practices are unclear. Seven elements of driving forces of traceability adoption in a company are labor/ cost reduction, competitive advantage, legislation, food safety, documentation of sustainability, chain communication and certification [7]. When these forces are practiced, it reflects the management's thorough adoption of traceability system in their production processes. This study aims to look into the adoption of the forces of traceability in a listed Halal food production company in order to derive a higher level framework of Halal traceability which may become a guide to other Halal food production companies.

## **MATERIALS AND METHODS**

Drawing on literature from the topics of traceability, a series of questions were designed to learn about the implementation of traceability in a *Shariah*-compliant food producing company. The researcher adopted interviews because it could be particularly useful for getting the story behind a participant's experiences as the interviewer can pursue in-depth information around the topic being discussed. This was also supported by McNamara (1999) who argues that interviews are useful for detail investigation from the informants [8]. Interviews with the personnel within the company were conducted to gain deeper understanding of the management, production and system practices and processes. In the interaction

between interviewer and interviewee enough clues can be given that the end of the interview is near. An explicit way to terminate the interview is by thanking the interviewee for cooperation and asking him or her if there are further remarks that might be relevant to the topic or the interview process. This can lead to an emergent of a whole new area of information [9].

Data collected from the company selected was analyzed from the perspective of seven elements of driving forces of traceability in order to identify the company's Halal traceability system in the production and management processes. In this case study, a company listed on the main board of *Shariah*-approved securities on Bursa Malaysia was selected as the subject. This follows the approach of Chrysochoidis *et al.*, (2009) which uses case study method to conduct cost benefit analysis of traceability of a company in order to derive a high order cost-benefit evaluation framework [10]. Face-to-face and telephone interview was conducted with the General Manager, Halal Committee and Production Committee of the company. With the experience of the company in bread and confectionary production for 51 years, many could be learnt from its traceability system application.

## **RESULTS AND DISCUSSION**

**Issues in Halal Traceability:** There are some issues highlighted by the General Manager of the company. For example, JAKIM takes too much time in issuing Halal certificate. It takes about six months for approval and this does not include renewal of the Halal certificate, whereas, Majlis Ugama Islam Singapore (MUIS) Halal certification only takes one month for approval. Besides, communication problems with Jabatan Kemajuan Islam Malaysia (JAKIM) officers is also a key issue in obtaining Halal certification because the officers in the department are busy with other work such as inspection, management and others.

On the other hand, Halal certificate is only valid for two years as compared to previously the validation period was three years. Hence, it is difficult for companies to manage their Halal certifications. If a company has multiple products, they have to renew each product based on the expired date and for each product they have to wait six months to get a new period of Halal certification. The incidence of Halal certificate revocation occurred in 2006 where the company was involved with a large case which all products were withdrawn from the market because of

the raid made on the complaints of factory using gelatin which is Haram. The incident cost the company about RM 50 million in losses and the company suffered from the loss for several years. Even now they are still at the stage of restoring the company's reputation. It is very difficult for them to get as many customers as before to be confident of their products again. The incident also had a big impact in Singapore because their products are exported to Singapore also as they have 15 percent market share in Singapore. To solve this problem, the marketing and promotion departments were assigned to gain customers' awareness and to recover Muslims' confidence from the negative publicity on the Halal status of their products. The manner the company's management response to food recalls is based on the values of the management which is sensitive to the Halal needs of the consumers. The same result was found by Charlebois (2011) that shown that values played a key role in crisis management of the company under his study [11].

**Adoption of Halal Traceability:** From the interviews all seven elements of traceability have been applied in the management and production processes of the company. According to the General Manager of the company, a traceability system has been implemented in the company's production several years ago. It was to ensure the high quality of their products were in line with the market requirements compared to other companies. Indirectly, this protected the company's reputation and customers' confidence had returned. They have also looked at the increasing demand from the customers for healthy food sets exacting requirements for a well structured traceability system. This system may also help them in maintaining their branding, ingredients, Halal matters and their reputation.

The management of the company feels that Halal certification exercise affects the company's net profit. The reason is that Muslim customers will buy their products because their products carry Halal certificate issued by JAKIM, the government's authority issuing the Halal certificate. Because of this, the company ensured that the Halal certification is issued by relevant authority which is JAKIM and not from other existing private companies issuing Halal certificates. Halal certification will also provide a validity check for users to ensure the food status. In terms of food safety, Halal Food Standard such as Malaysian Standard MS 1500: 2004 Halal Food - Production, Preparation, Handling and Storage is used as a guide to maintain the process flows.

**Certification:** All of the company's products are certified Halal, so consumers do not have to worry about the cleanliness of the materials or ingredients used. According to the representative of the Halal committee, usually the company would apply for Halal certification of their products 3 to 4 times per year. These applications are just for new products to be launched beside renewal of the existing products. Before they start the production for a new product, the Quality Assurance (QA) department will send a list of new products together with a list of ingredients used and the source of the ingredients itself to the Halal committee for Halal approval. The Halal committee will verify the materials used with JAKIM to see if all the materials to be used are certified Halal by JAKIM. The QA department will then proceed with the production processes and at the same time the committee will apply for the Halal certification from JAKIM. Halal certification application usually takes 6 months for approval.

**Food Safety:** For safety and hygiene, the company has introduced the food safety policy in order to ensure that all the products achieve customers' satisfaction and confidence. The manufacturing and processing of bakery and confectionary products were also involved in controlling of raw materials, production and ensuring that the products are safe for customer. The food safety policies of this company are (a) committed to maintaining the effectiveness of Food Safety Management System (ISO 22000:2005) through monitoring and reviewing of the actual performance of established food safety objectives, (b) conform to the legislation, regulation and relevant standard codes related to food safety, (c) Continually improve the operation through adopting of effective Food Safety Management System (ISO 22000:2005) requirement whilst incorporating research and development, (d) be at the forefront of product innovation and creativity to ensure further commitment to food safety while being result oriented at all times and (e) keeping the policy at strategic locations and communicated to all level of organization.

On top of this, the employees are guided by officers during preparation and processing to ensure the products' safety and hygiene. There is only one entrance to the factory, so, all workers will go in and out through that entrance only, hence employees' safety and hygiene is controlled at the entrance for example, employees are required to wash their hands before they enter the factory and wear special clothing with hand gloves for safety and cleanliness.

**Legislation:** The company has conformed to ISO22000:2005 for Food Safety Management System assessed by Lloyd's Register Quality Assurance, United Kingdom which enhances their processing quality and hygiene standards. The company also study and is moving forward on the practices of Halal standards. This company also uses Hazard Analysis and Critical Control Point (HACCP) and Malaysian Standard MS 1500: 2004 Halal Food - Production, Preparation, Handling and Storage - General Guidelines as a guideline for production and processing of products.

**Documentation Sustainability:** Sustainability in documentation is very important in order to maintain the system in high level of application. The company uses a documentation system during processing and production which is very systematic and they can identify the problems and cause of these problems. This system is also centralized making it easier for officers to control the system and keep important documents and information in the system.

**Competitive Advantage:** The company also markets other imported products such as from the United Arab Emirates (UAE) and other countries. Every year, two or three new products are introduced. This company also uses high technology in order to produce their products which save cost and time. In Singapore, this brand is one of the popular products for bakery and confectionary. The Group Managing Director said 'Right now, we are Halal but we want to concentrate on it more. Our export market is 25 percent, but with this new concentration we aim to grow more'. This is one of the changes made by this company in expanding their market and realizing the fact that most of their customers in Malaysia are Muslims.

**Chain Communication:** Companies need to understand that customers are constantly surrounding themselves with their own ideals; they are building a world of their own. As producers and manufacturers, they must strive to understand that world consumers' demand is changing and ask themselves how they can be a part of it. For the success of the production and to the company, they should always receive feedback from consumers to enhance and improve the quality of their products. Companies should also have a strong relationship with relevant authorities such as JAKIM, the Ministry of Health (MOH), Universiti Putra Malaysia (UPM) and other institutions in order to guide those regarding Halal issues.

When problems on Halal matters arise, they should refer to JAKIM to ensure that decisions taken are appropriate and do not violate ethics or procedures of Halal certifications.

**Labor/Cost Reduction:** The use of technology during the production is strength to the company and it also helps them in reducing the cost of production. Labors are only used at the end of the production line. Labor is also reduced during the other line of production, because of the high temperature and the environment in the factory itself that takes care of the hygiene environment. A combination of sophisticated European and Japanese Technology is also employed at this factory. This is to ensure that the highest level of production standards needed to deliver the quality products for the market demands is used. The usage of traceability system in this company also ensures them in reducing their cost by reducing time when the problem was occurred and saving time in tracing the cause of the problem. The cost of implementing traceability is significant, but the cost of not having one can be far higher. The cost of not having a traceable system is effectively an export barrier and a limit to market access. Traceability has already become a minimum cost of entry into international business.

The Shariah-compliant measures adopted in the company studied results to the generation of a Halal traceability framework from the measures discussed. These measures could be replicated to other Halal food producers to maintain the Halal integrity. Halal traceability system can be a device or tool for communication along the supply chain and it also makes information available along the supply chain. So, to make it more efficient in its implementation, then government should facilitate the process of implementing traceability in industries through JAKIM, Ministry of International Trade and Industry (MITI), Small and Medium Industries Development Corporation (SMIDEC) and Malaysian Industrial Development Finance Berhad (MIDF). These government bodies can provide a plan or system of traceability for companies to follow which will make it easier for companies to obtain Halal certification and indirectly get market confident. With the adoption of Halal traceability framework, the authorities could guide the companies involved in the food industries in order to ensure Shariah compliance and other requirements regarding safety and health. The framework could be a guideline for authorities to monitor Halal production issues such as such as ingredients, cleanness, hygiene and transportation. On

the other hand, the authorities may also provide a plan or system of traceability for companies to implement for them to comply with Halal requirements which in turn gain market confident.

### **CONCLUSION**

The adoption of full scale traceability system as well adhering to the Shariah requirements for Halal production, results to an adoption of Halal traceability system in the case studied. The summarization of the main findings results to a generation of Halal traceability framework which may be referred to other companies in the similar setting of producing Halal products. For future research, it is recommended that more traceability adoption in Halal production companies in order for comparative practices could be studied so that the Halal traceability framework could be improved. It would also facilitate in studying the effectiveness of the traceability systems used in the companies.

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