

## Halal Orientation Strategy(HOS) Reinforces to Positive Results on Quality, Time, Cost Control and Flexibility among Halal Food Manufacturers in Malaysia Context

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### Abstract

The purpose of this paper was to explain on the conceptualisation of the Halal Orientation strategy (HOS) based on operation strategy perspective. The four variables constitute in HOS are staffing, materials, production process and storage together with transportation. By focusing on HOS, the manufacturers reinforce improvement in quality, cost control, time and flexibility of the production Halal food industry in Malaysia which is the performance objective of market competitiveness in Malaysia context. A self-administered questionnaire was designed and used to assess the significant of HOS that lead to improve quality, cost control, reduction in time and the flexibility among Halal food manufacturers in Malaysia. From a total of 443 Halal food manufacturers were involved in this study, only 137 respondents are usable for this research. The study showed significant results for the manufacturers to focus in Halal Orientation strategy (HOS) which have positive impacts on quality, cost control, time and flexibility. This research aimed to measure the HOS among food firms in Malaysia and to determine HOS in relation with the performance objective of operational outcomes.

**Keywords:** Halal Orientation Strategy (HOS), Quality, Cost Control Time, Flexibility

**JEL Classifications:** M10, M14, M16

## I . Introduction

The increase of Islamic awareness, sensitivity in Islam and worldwide curiosity in Islamic faith and values gives an im-

act to the food industry. Religion is an essential factor where it is the most universal and influential social institution that has significant influence on people's attitudes, values and behaviours at both

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levels of individual and society (Mokhlis, 2009). Kotler, Ang, Leong, and Tan (1999) also mentioned that religion is one of the factors that could influence the buying decisions. The increase in birth rates of Muslims in Europe, America, Australia, Asia and South East Asia is one of the reasons for the increase in halal food consumption (Lewis, 2007). This scenario also leads to extensive businesses and trades worldwide, where halal industry becomes an attractive business to venture in halal products and services.

With expanding global markets, innovative food firms are leading the charge by carving a new niche to gain a competitive edge in the marketplace (Lewis, 2007). According to Lewis (2007), for the domestic marketer the question is usually on how firm get an additional edge in the marketplace and on the other hand, for the global marketer, the question is on how to comply with the import requirements of Muslim countries. The market potentials of halal food in the world are not limited to Muslim countries. However, countries such as United States, Europe, Singapore, Australia, New Zealand, and South Africa (with very small Muslim populations) have become significant contributors to the world halal trade. Domestic or International firms in Malaysia should have a unique identity or niche that seriously identified them as producers or manufacturers producing reliable halal products. In terms of food, halal food is important not only to satisfy the Islamic principles on food but it also has to maintain the quality of halal food. The quality of halal food also covers all aspects namely cleanliness or hygiene,

safety, preparation, storage and purification which are called as "tayyibah" or "tayyib" which means wholesome or purity, nutritious and safe aspects (Evans, 2007b; Halal Journal, 2007; Kamarudin & Masron, 2007; Riaz & Chaudry, 2003; Rohana & Tajul Ariffin, 2007). The presence of halal and tayyib will ensure that halal food is secure and healthy which leads to good health (Ruzana, 2007; Siti Hasnah, 2011) and currently halal principles have become a universal concept (Rezai, Mohamed, & Shamsudin, 2012). It also carries universal values such as cleanliness, quality and wholesome (Rahman, Wan Ahmad, Yusoff Mohamad, & Ismail, 2011). Generally, religion can influence consumers' attitude and behaviour (Alam, Mohd, & Hisham, 2011; Bonne, Vermeir, Bergeaud-Blackler, & Verbeke, 2007; Delener, 1994; Hart, Tinker, Bowen, Satia-Abouta, & McLerran, 2004; Pettinger, Howldsworth & Gerber, 2004; Zakaria & Abdul-Talib, 2010).

The Malaysian government has extended the role and function of the few Government agencies after realising that halal food has emerged as the global competitive weapon. HDC (halal Industry Development Corporation Sdn Bhd, MITI (Ministry of International Trade and Industry), MATRADE (Malaysian External Trade development) and SMIDEC (Small and Medium Size Industries Development Corporation) put all their efforts to prepare local industries to compete globally by participating in the Halal market (Halal Journal, 2007; Nik Maheran, Filzah, & Bidin, 2009; Said, Hassan, & Musa, 2011; Zakaria, 2008). The Malaysian government is committed towards develop-

ing the halal industry and among the objectives of the Third Industrial Plan (IMP3), 2006-2020, is to make Malaysia the global player in Halal Hub for the production and trade in halal goods and services (Ninth Malaysia Plan 2006-2010, 2007). In order to be competitive in Halal industry, Malaysian manufacturers or food producers cannot only depend on having the halal logo but they should have more to differentiate than others in establishing their halal food products. Therefore, by establishing Halal Orientation Strategy or HOS as a niche in their manufacturing organization, automatically it may lead them to pursue business in halal products more effectively.

Most halal related researches concentrate on the downstream stages focusing on acceptance, usage and user satisfaction towards halal certification and very little on upstream issues such as adoption of decisions and antecedents related to halal food in Malaysia (Nik Mahtera, Filzah, & Bidin, 2009; Pointing & Teinaz, 2004; Suhaiza & Rosly, 2004). The concept of Halal Orientation Strategy or HOS can be viewed from the perspectives of the halal orientation based on the concept of operation strategy (Zunirah, 2014) which allows a firm to outperform better than its competitors for the long term and the 'competitive advantage' can be sustained.

## II. Literature Review

In corporate firms especially Modern Corporations, their business strategy is consumer demand driven and perceived

by corporation as sharpening their competitive edges where they differentiate the firm objectives based on organizational level; corporate, divisional and functional (Fine & Hax, 1985; Hax & Majluf, 1996; Schuh, Potente, Schittny, & Wittek, 2011; Zhen, 2012). In line with David (2003), the nature of long term objectives is needed at the corporate, divisional and functional level of organizations. "Long term objectives should be quantitative, measurable, realistic, understandable, challenging, hierarchical, and congruent among organizational units and must associate with a time line" (David, 2003, p.158). The study focuses on the operation perspective in producing halal food according to Islamic law requirements. As to be more specific in scrutinising this research, more effort would be concentrated on understanding the difference between operation management and operation strategy. According to Slack, Chambers and Johnston (2010) although they cannot separate the two concepts, they do have different characteristics and treat issues in different manner. Table 1 presents their differences:

Therefore, from the leading scholars, the strategy encompasses objectives, long-term goals, adoption of actions for short term and long-term goals and the allocation of resources to meet the goals and means. These explanations of strategies from different scholars help this research to concur that the Halal Orientation Strategy can be used as an operation strategy in the halal food industry to fulfil the determination to ensure the success of halal industry.

**Table 1.** Operation Strategy is Different to Operation Management

	Operation Management	Operation Strategy
Time of Scale	Short term, example: capacity plan 1 to 12 months	Long term, example: capacity plan 1 to 10 years
Level of Analysis	Micro level, example individual process	Macro level, example integrating the process to total operation
Level of Aggregation	Detail, example how many we need to have halal food products?	Aggregate, example what is the overall capability in providing the service?
Level of Abstraction	Concrete, example concerned on specific localises solution.	Philosophical, example concerned on overall concepts or approach.

Source: Adapted to Operation Strategy : Slack and Lewis (2009)

## 2.1. Conceptualisation of Halal Orientation Strategy (HOS)

According to Upton (2008), today, firms with superior and noble operation can generate huge competitive advantage of which this study tries to address Halal Orientation as one of the superior and noble strategic decision in food industry (Zunirah, Suhaiza, Yusserie, 2010). Since not much research has been done in Halal Orientation Strategy, it is found to be quite a critical perspective of empirical research in the halal food industry as mentioned in the research problem.

In this research, the definition of halal concept guides the orientation strategy itself. The halal concept has explained in where the vision of HOS based on the halal concept. The Halal Orientation Strategy or HOS is bounded to the requirements of halal concept where it is definitely different from conventional operation strategy. In the conventional way of operation strategy, it does not take into account whether the products or processes including resources are halal or not.

Subsequently, to ensure that halal concept is established efficiently and effectively in the organization, HOS has to be responded by the managerial level in the organization in order to ensure the successful of halal operation. In halal operation, it warrants all activities starting from the input to the final output remain within halal requirements. This explanation is adopted based on the Nisco and Napolitano (2006) and they realised the importance of managerial response when they are looking at the shopping centres such as retailing, eating and entertainment

As stated in this research, the concept of Halal Orientation Strategy (HOS) is viewed from two perspectives, as the definitions of Halal Orientation (Zunirah, Suhaiza, Yusserie, 2010) and the concept of operation strategy (Slack, Chambers & Johnston 2010; Lowson, 2002; Krawjewski & Ritzman, 1998; Heizer & Render, 2008; Zunirah, 2014). The orientation in Halal perspective can be defined as a “…… question of degree where the degree to which concept dominates the way of

thinking in an organization and consequently the decisions get taken and the way people do their jobs” (Pearson, 1993, p.242). Subsequently, from the literature gathered by Zunirah (2014) showed how the concept of operation strategy is defined as the total pattern of decisions that shape the long-term capabilities of halal operation. The operation strategy is the contribution to overall strategy through the reconciliation of market requirements with operation resources perspective.

These reasons help to identify Halal Orientation Strategy to be conceptualised as an operation strategy by looking at vision of the company in the halal operation, performance objectives parallel with halal concept and the resource perspective. In this research, the halal concept guides the orientation strategy where the Halal Orientation Strategy (HOS) is bounded to the requirements of halal concept. It is different from the conventional way of orientation strategy because it takes into account whether the products or processes including resources are halal or not. Subsequently, to ensure that halal concept is established efficiently in the organization, Halal Orientation Strategy (HOS) has to respond to the managerial level in the organization in order to ensure the successful in halal operation and performance objective. In halal operation, it warrants all activities starting from the input to the final output remain within halal requirements. This explanation is adopted based on the Nisco and Napolitano (2006) and the strategy is basically based on the importance of managerial response as an operation strategy in an

organisation.

According to Zunirah (2014), by looking at the operation resources based from the theory of Resource based view (RBV) perspective on Halal Orientation Strategy, the following points are considered to conceptualise the HOS:

- A major influence on how successful halal food firms in Halal market are the characteristics of its resources where mainly focusing on staffing and materials.
- Intangible resources which involved the information of halal processes, storage and transportation where the processes required information of halal knowledge. This information guides the output of day-to-day production of halal food products or services. The information also involved the procedures and the policies of the companies.

When the resources are arranged into these processes in the halal food firms, their full potentials start to be realised. Usually all operations have documented procedures to make official known of their regular activities, however, they also have ways of getting things done with less or non-formal documentations which can give impact to the halal requirements. The Halal Orientation Strategy (HOS) in this study tries to show the critical aspects of halal food firms in Malaysia. Using data on Halal food firms, we provide systematic evidence on the conceptualisation of Halal Orientation strategy from Halal food companies in Malaysia. Contrary to some anecdotal evidences claimed that the levels of Halal

orientation of non-Muslim companies which produce Halal food have question marks in term of their implementation strategy. However, in our sample, we focus on the four variables which are staffing, materials, production process and storage together with transportation. By focusing on the HOS (Halal Orientation Strategy), the companies would be able to have proper guidelines of operation strategy in ensuring the whole flows of the production starting from the staffing, materials, and production process until the storage and transportation will genuinely follow the halal requirement in production (Zunirah, 2014). The most importantly, we can see that it will improve the quality of halal food product, control the cost involved, and help the halal food company to become flexible in their production and lastly when these aspects achieved it will lead to reduce the time in production.

In general, operation is concerned on "day to day" activities, creation and delivery of goods and services. According to Slack, Chambers and Johnston (2010), operation management is the activity of managing the resources and processes that produce and deliver goods and services where it is more involved in individual processes or functional-level in the organization. Operation management also refers to the direction and control of processes or activities that transform input into finished goods or services (Slack, Chambers & Johnston (2010); Lawson, 2002; Krawjewski & Ritzman, 1998; Heizer & Render, 2008). In this research of halal industry, the operation management is referred to the direction and control of

the processes or activities that transform input, which are materials or sources into semi-finished or finished halal products.

An effective operation management effort must have a mission to become economic success, indeed survival to satisfy customer needs and wants. According to Heizer and Render (2008), this is when the operation management activities guided by the operation strategy. Therefore, in this research the Halal Orientation Strategy or HOS conceptualisation is based on the concept of the operation strategy implementation in the organization of the production in halal food. Operation strategy is a part of the firms' strategies in operation activities in the organization, which specifies how operations can help implement the firm's long-term strategy (Slack, Chambers & Johnston 2010; Lawson, 2002; Krawjewski & Ritzman, 1998; Heizer & Render, 2008). The difference between operation strategy and operation management is based on Slack, Chambers and Johnston (2010) as mentioned before and can be referred to in Table 1.

On the other hand, other scholars defined the operation strategy as basically concerned with the total transformation process of the whole business and it is "the total pattern of decisions that shape the long-term capabilities of any type of operation and their contribution to overall strategy through the reconciliation of market requirements with operation resources" (Slack, Chambers and Johnston, 2010). According to Slack and Lewis (2009), many academic writers and practitioners have supported the three themes which constitute operation strat-

egy, which are market influence, resource influence and vision of the company.

- 1st theme, market influence of operation strategy should reflect the intended market position.
- 2nd theme, resource influence is that the success of competitive strategy and it is not just a matter of selecting a market position but importantly on how the resources and processes within an operation constitutes a set of competences or capabilities.
- 3rd theme, which is vision describe operation task or mission and it may be expressed in the form of abstract philosophy that conceptually links strategic ends with operation means.

The different views of operation strategy have assisted this study to conceptualise Halal Orientation Strategy or HOS, and subsequently lead to the operational outcomes. In this context of study, Halal

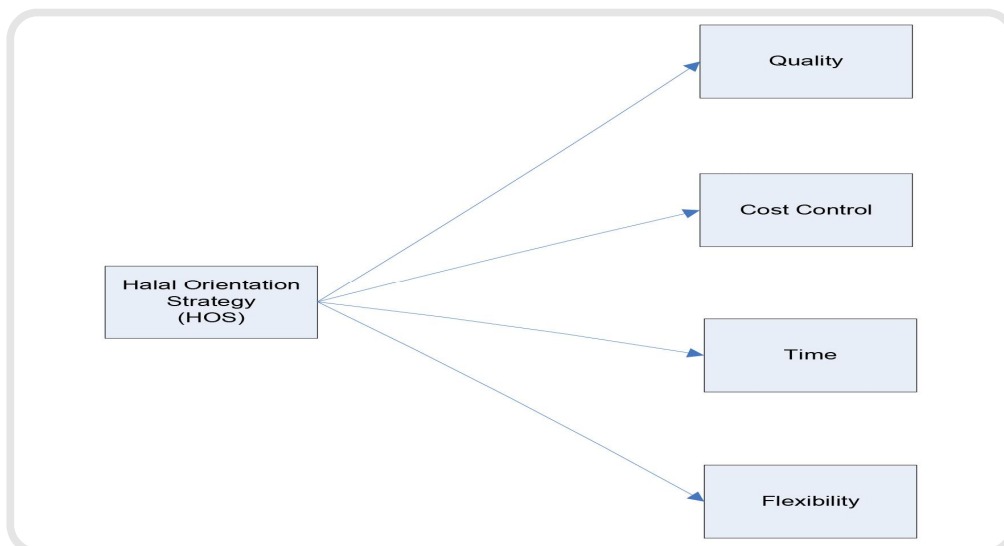
Orientation Strategy is basically based on the resource perspective which an operation strategy describes as a vision theme to strengthen the concept of Halal Orientation Strategy as a strategic strategy.

### III. Theoretical Framework

#### 3.1. Dimensions of Halal Orientation Strategy (HOS)

This research focuses on food firms based on the scope of Halal Food Directory 2011 and examines the extent of Halal Orientation Strategy implementation. Food processing, as mentioned in Chapter 1, clearly explains how manufacturers play important roles in food production. The food processed involved chicken, meat, fish and other food commodities that go through processing or manu-

**Fig. 1.** Research Model



facturing processes by machines or by human activities (Van der Meer, 2006).

MS 1500:2004 (Malaysian Standard, 2004) is based on the Malaysian standard which focuses on the source of halal food that comes in the form of animals, plants, mushrooms, microorganism as well as chemicals. The MS 1500:2004 prescribes to the "General Guidelines" in the production, preparation, handling and storage for the halal food industry, which subsequently serves seven basic requirements. The seven basic requirements for MS1500:2004 are as follow: i) sources of halal feed, ii) slaughtering, iii) product processing, handling and distribution, iv) product storage, display and servings, v) hygiene, sanitation and food safety, vi) packaging and labelling and lastly vii) legal requirements (Abdul Latif, 2006; Suhaiza et al.,2008).

Those basic requirements of HOS are operationalised into four components or dimensions, which are 1) staffing, 2) materials, 3) production process, 4) storage and transportation that are based on the halal requirements and it automatically controls practical operations in the production of halal food as explained in the operation resources perspective (Slack, Chambers and Johnston (2010). Furthermore, the four dimensions can be also looking into production view at functional level. Production can be defined as the transformation of input into output through process activities (Heizer & Render, 2008; Krawjewski & Ritzman, 2002). According to them, in the production system, the inputs are the resources used in the organization including workers, managers, equipments, facili-

ties, materials, services, land and energy.

The dimensions of Halal Orientation Strategy will be discussed as follows:

### 3.1.1. Halal in Staffing

In the food industry, staffing plays an important role in determining the success of the organization operations especially for production. Staffing refers to the human resources who operate, maintain, plan, and manage the operation (Slack, Chambers & Johnston, 2010) of halal food firms. According to Slack, Chambers and Johnston (2010), the term staff is used to describe the people in the operation at any level.

The organizations halal determines the necessary competence for personnel performing work in handling halal food. The organization has to provide training activities to satisfy halal requirements (HDC, 2010). At the same time, the organization has to ensure that the staff concerned are aware and understand of the relevance and importance of knowledge concerning halal requirements as to ensure the processing of the products are halal. The most important aspect is to ensure that appropriate records of education, training, skills and experience need to be maintained regularly.

### 3.1.2. Halal in Materials

The materials are the gist of the whole concept in 'halalness' food production. To ensure the 'end products' are halal, the raw materials or ingredients MUST be halal and there must not contain non-halal ingredients in large or small quantity (HDC, 2010). All the materials or in-



ingredients used for food production must obtain approval from the halal certification authority.

In Malaysia, JAKIM is the sole body in the country authorised to issue halal certification. In the past, state religion bodies could issue their own halal certification with their own logos but not anymore. Producer supplying the ingredients for halal production must provide together with all primary and secondary suppliers. These raw materials must ensure that it is free from hazard and safe for human consumption.

### 3.1.3. Halal in Production Process

The food product is prepared, processed or manufactured using equipment and facilities that are free from contamination with non-halal or 'najis'. During preparation, processing and storage, food should be fully separated from any other non-halal or haram food that do not meet the requirements specified as 'halal' or else they are considered as 'najis' according to Syari'ah law. A complete and thorough cleaning in halal production must be done the day before commencement of storage and transportation.

Equipments, piping, production lines, conveyors, cooking equipments, utensils, business result buckets, stoves, ovens, kettles, barrels and all other equipments which are used for halal production must be cleaned and free from non-halal materials (HDC, 2010). Any remaining food, grease or other materials must be cleaned and removed prior to production. Production process is where the inputs start and end with the product output, and to

ensure the product is halal, the production process must be maintained in halal condition. The way in which organization develop halal products is problematic because different organizations will adopt different processes. What the companies specify as a formal product development procedure and what happens in reality can be very different (Slack, Chambers and Johnston, 2010) and these lead to where the production process has to be scrutinised thoroughly to ensure the products are halal.

### 3.1.4. Halal in Storage and Transportation

The storage, display and serving of halal food products need to be labelled as halal or have certified halal logos. Then, the halal food products must be properly separated from the non-halal products so as to avoid confusion among consumers. Non-halal and halal food products must be kept separately in the storage during transportation and distribution in order to prevent contamination.

All halal food are prepared, processed, packaged, transported and stored according to the hygiene, safety and sanitary requirement outlined by the authority and in line with the concept of "Halal and Tayyiban or Tayyib" which means "wholesomeness and goodness" (Khaizuran, 2007; Malaysia Standard, 2004; Riaz Chaudry 2003).

The Halal Orientation Strategy assists to control and guide these four items, namely staffing, materials, production process and storage & transportation, in food firms to ensure the production of halal food. Thus, in determining the halal

and haram status of food, the MS 1500: 2004 principally follows the Syari'ah laws' general guidelines (Suhaiza & Rosly, 2004; Zunirah et. al, 2010) and the guidelines is summarised as follows:

- All raw materials and ingredients used must be halal.
- Naturally halal animals such as cattle, goat, chicken and other animals permitted by Islam, must be slaughtered according to Islamic rites, to sever the blood and respiratory channels of the animals, using a sharp tool such as a sharp knife.
- The ritual specifies that the act must be performed by a mentally sound Muslim,
- The halal ingredients must not be mixed, or come into contact with haram materials, such as produce from pig or dog during storage, transport, cooking, serving or other activities associated in producing the food.

The above aspects show the importance of raw materials or materials, staffing, process and also storage and transportation in producing halal food products. Therefore, it is clear that Halal Orientation Strategy depends on the above-mentioned aspects that control the operation of halal food production.

### 3.2. Performance Objective in Halal Orientation Strategy

They agreed that the dimensions for performance objective of operational outcomes are cost, quality, time and flexibility. The performance objective is the competitive priorities that help to ensure

the effectiveness of HOS implementation in the halal food production. The effectiveness will help organizations to sustain their businesses in the halal food industry in Malaysia. Performance objective represent the operational outcomes of halal food of a firm. From empirical research for manufacturing, operational performance can be measured based on productivity, cost impact in general, flexibility and quality (Raymond, 2005; Raymond & St-Pierre, 2005). They also believe that the most relevant dimensions associated with operational outcomes are the non-financial benefits in advanced technology for manufacturing firms related to flexibility in production volume, variety and process. By looking at strategic positioning as operation strategy of the companies can evaluate based on quality in meeting customer satisfaction in halal products including safety, hygienic and contamination of non halal substances. Thus, time is about efficient in delivery and production in a timely manner especially new product, whereas the cost impact is about the cost control of the firm in long-term basis.

Therefore, in this research, operational performance of the HOS is based on the most cited general performance objective of operational outcomes which are product quality improvements, cost impact, improvement in time and also improvement in the flexibility (Heizer & Render, 2008; Krajewski & Ritzman, 2002; Raymond and St-Pierre, 2005; Raymond, 2005; Lawson, 2002). In short, the operational performance will be evaluated by four dimensions, of which the following hypotheses proposed:

- H1: Halal Orientation Strategy (HOS) positively affects the Quality  
 H2: Halal Orientation Strategy (HOS) positively affects the Cost Control  
 H3: Halal Orientation Strategy (HOS) positively affects the Time  
 H4: Halal Orientation Strategy (HOS) positively affects the Flexibility

## IV. Findings

### 4.1. Profile of Sample Firms and Respondents

The characteristics of responding firms are presented in Table 2. The table shows that half of the firms belonged to processed food (32.1%) and ready to eat foods (24.1%). The others were the confectioneries (16.8%), frozen foods (13.1%), and beverages (13.9%). Using definition from SMIDEC, a company can be classified as small and medium companies or firms if it has fewer than 50 employees, while and more than 150 employees was categorized under large companies or firms.

About 78.9% of the respondents who participated in the survey were from firm with 150 or less number of employees, while 20.1% were from the large firms with more than 150 employees. The results concurred with SMIDEC's (Small Medium information, which says that the majority of the food companies in Malaysia are small, and medium sizes companies. The result showed that 78.9% of the respondents in this study were from small and medium sized firms, which are the

most active firms in the halal food industries. Furthermore, the result of the analysis showed that the majority of the firms (67.2%) were more than 10 years old. On the other hand, the minority of the firms have been operating less than 5 years, which constituted 16.1% of the responding firms.

In this study, almost 90% of the responding firms market most of their products in the local market, or in the local and overseas markets. However, only 10.2% of the responding firms market their food products overseas. Out of the total responding food firms, 46.7% were owned by Muslims, while 39.4% were owned by non- Muslims. The remaining 13.9% were firms owned by joint ventures, or owned by corporate firms. In this study, about 54% of the responding firms practiced Good Managing Practice (GMP), and 48.9% had HACCP. These two certifications are very important for food firms. With regard to Halal Malaysian Standards, 73.0% of the responding firms observed the MS 1500:2004 certification, while only 27% did not observe, or were not sure of the existence of the Halal Malaysian Standards, the important determinant of halal food production. The analysis of data also showed that about 73.7% of the responding firms have been exposed to the Syari'ah (Islamic) law in halal food, while about 26% of them were not exposed to the syaria'ah (Islamic) law.

About 89% of the responding firms claimed that their firms experienced increase of profit when they emphasised on halal issues in the food production. Based on the data, 63.5% of the responding

firms identified that the current implementation of food management in their company was managed totally by the company's management team, whereas only 29.2% of the responding firms involved people from JAKIM or the State Islamic Authority. Data showed that only

5.8% was using agents to manage their halal food firms, and 1.5% did not have management team for their halal food products.

Table 3 shows the profile of respondents who answered the questionnaires. These data reflects the additional evi-

**Table 2.** Profile of Sample Firms

Variables	Categories	Frequency	%
Food Categories	Confectionery	23	16.8
	Frozen foods	18	13.1
	Processed foods	44	32.1
	Ready to eat foods	33	24.1
	Beverages	19	13.9
No. of Employees	Less than 50	76	55.5
	50-150	32	23.4
	151-250	10	7.3
	251-500	14	10.2
	More than 500	5	3.6
Age of Firms	Less than 5 years	22	16.1
	5-10 years	23	16.8
	More than 10 years	92	67.2
Market Product	Domestic market	61	44.5
	Export market	14	10.2
	Both markets	62	45.3
Ownership Status	Owned by Muslim	64	46.7
	Others	19	13.9
	Owned by non-Muslim	54	39.4
GMP	Yes	74	54.0
	No	63	46.0
HACCP	Yes	67	48.9
	No	70	51.1
MS1500: 2004	Yes	100	73.0
	No	13	9.5
	Not Sure	24	17.5
Syari'ah Law	Yes	101	73.7
	No	15	10.9
	Not Sure	21	15.3
Profit	Yes	122	89.1
	No	3	2.2
	Not Sure	12	8.8
Halal Food Management	Totally company	87	63.5
	Company and JAKIM	40	29.2
	Company and Agent	8	5.8
	None at all	2	1.5

**Table 3.** Profile of Respondents

Variable	Categories	Frequency	%
Position	Owner or managerial level	87	63.5
	Nonmanagerial level	50	36.5
Years of Service	Less than 3 years	37	27.0
	3-5 years	42	30.7
	6 - 10 years	22	16.1
	More than 10 years	36	26.3
Gender	Male	61	44.5
	Female	76	55.5
Age	Less than 30	37	27.0
	30-40 years	36	26.3
	More than 40 years	64	46.7

dence of the halal food industry in Malaysia. The table discloses that 63.5% of the respondents were given full responsibility in halal food production in their companies, and they claimed to be in the category of managerial positions. However, for the smaller firms, most of them were the owners of their own firms. About 36.5% of the respondents were holding nonmanagerial position responsible for handling food production. With regard to their experience, data indicate that their years of experience vary among them. Majority (30.7%) have worked between three to five years, 27.0% worked less than three years, and 26.3% have worked for more than 10 years. The least percentage of the respondents (16.1%) has work experience between 5 and 10 years. The data also show that 55.5% of the respondents were females, while 44.5% were male respondents. From the data, females were slightly more than men that represented their firms in halal food production. Lastly, the table discloses that almost half of the respondents were older than 40 years,

27.0% were younger than 30 years, and 26.3% were between the age of 30 and 40 years.

#### 4.2. Measures

The measures for additional items for quality and time were the self-constructed based on halal requirements. Here, the questions needed to be more specific after referring to the comments and inputs from the practitioners including the halal researchers. According to Raymond (2005), cost is more about cost impact rather than cost control. Therefore, the additional questions for cost control were added to the questions. These additional items on cost control, were based on the concept from Vanchon and Classen (2008) and adapted from Zunirah(2014). The Likert scale from 1 to 5 is used which indicates a degree of agreement or disagreement. The final items were those items which were relevant items in the context of halal research based on the comments made by practitioners during the pretest. After the final review from the pretest,

**Table 4.** Questionnaire Items Used in This Research

<b>Quality</b>		
1	Meeting customer satisfaction levels of halal food products.	Raymond (2005)
2	Quality of halal food products.	Raymond (2005)
3	Safety of halal food products.	Raymond (2005)
4	Hygienic of production for halal food products.	Self Construct
5	Contamination of non materials or substances on halal food products.	Self Construct
<b>Cost Control</b>		
6	In managing the overall operation cost.	*Vanchon & Classen (2008)
7	In monitoring the overall operation cost.	*Vanchon & Classen (2008)
8	In monitoring the production cost.	Raymond (2005)
9	In production cost due to customers' complaints in halal issues.	Raymond (2005)
<b>Time</b>		
10	To produce new halal food products.	Raymond (2005)
11	To standardize of halal food products.	Raymond (2005)
12	To have proper delivery for customers due to dedicated storage.	Self Construct
13	To have easy delivery for customers by having dedicated transport.	Self Construct
<b>Flexibility</b>		
14	Adjust to production volume of the offered halal food.	Raymond and St. Pierre(2005)
15	Adjust to production variety of the offered halal food	Raymond and St. Pierre(2005)
16	Adjust to production process of the offered halal food.	Raymond and St. Pierre(2005)
Halal Orientation Strategy (HOS)                      Self Construct based on the MS1500:2004		
<b>Staffing: My company ensures the employees in halal food production...</b>		
1	competent in carrying out the responsible duty.	
2	understand the procedures of handling halal food.	
3	understand the Islamic requirements in halal food.	
4	are given training in handling halal food.	
5	are given adequate training in handling halal food.	
<b>Materials: All raw materials including ingredients must be ensured.....</b>		
6	Halal.	
7	genuine purity (not only no pork and alcohol but clean from contamination of nonhalal items).	
8	clean based on halal concept.	
9	have quality based on halal concept.	
10	fulfil the valid requirements by JAKIM (Department of Islamic Development Malaysia) or other bodies approved by JAKIM.	
11	from supplier which have valid halal certification by JAKIM	
<b>Production Process: My company ensures on....</b>		
12	the implementation of the Hazard Analysis and Critical Control Point (HACCP) or similar safety system in halal food production.	
13	the sanitation and cleanliness of production area are maintained in compliant to Syari'ah (Islamic) requirements approved by JAKIM.	
14	the sanitation and cleanliness of other parts of the factory are maintained in compliant to Syari'ah (Islamic) requirements approved by JAKIM.	
15	the waste management and disposal are according to current government laws.	
16	the processing equipments and machines provided are hygienic approved by JAKIM	
17	the serious attention to the utensils and gadgets used in order to avoid the contamination issue on halal and nonhalal products.	
18	the implementation of GMP (Good Manufacturing Practice).	
19	the standard procedures in food operation fulfil the halal concept .	
<b>Storage and Transportation for halal food, my company ensures.....</b>		
20	the standard procedures in food operation fulfil the valid requirements by JAKIM.	
21	dedicated storage for halal food products.	
22	dedicated transportation for halal food products.	
23	dedicated infrastructure for halal food products ( for e.g., Cold room only for halal food)	
24	clean and hygienic storage facilities that fulfil Syari'ah law or JAKIM requirements.	
25	clean and hygienic transportation that fulfil Syari'ah law or JAKIM requirements.	

Table 5. Results of the Measurement Model

Construct	Item	Loadings	AVE	CR
Quality	OP1	0.914	0.873	0.965
	OP2	0.935		
	OP3	0.959		
	OP4	0.929		
Cost Control	OP6	0.952	0.828	0.950
	OP7	0.960		
	OP8	0.955		
	OP9	0.757		
Time	OP10	0.863	0.807	0.944
	OP11	0.901		
	OP12	0.919		
	OP13	0.911		
Flexibility	OP14	0.926	0.911	0.968
	OP15	0.961		
	OP16	0.975		
Halal Orientation Strategy (HOS)	HOS1	0.587	0.499	0.961
	HOS2	0.676		
	HOS3	0.653		
	HOS4	0.558		
	HOS5	0.552		
	HOS6	0.655		
	HOS7	0.720		
	HOS8	0.707		
	HOS9	0.735		
	HOS10	0.791		
	HOS11	0.649		
	HOS12	0.567		
	HOS13	0.729		
	HOS14	0.724		
	HOS15	0.734		
	HOS16	0.714		
	HOS17	0.758		
	HOS18	0.666		
	HOS19	0.770		
	HOS20	0.808		
	HOS21	0.815		
	HOS22	0.711		
	HOS23	0.699		
	HOS24	0.802		
	HOS25	0.779		

Notes: OP5 was deleted due to low loadings

**Table 6.** Discriminant Validity of Constructs

	Cost Control	Flexibility	HOS	Quality	Time
Cost Control	<b>0.910</b>				
Flexibility	0.315	<b>0.954</b>			
HOS	0.336	0.408	<b>0.706</b>		
Quality	0.422	0.472	0.562	<b>0.934</b>	
Time	0.593	0.631	0.469	0.539	<b>0.898</b>

Notes: Diagonal elements are the square root of average variance extracted (AVE) between the constructs and their measures. Off-diagonal elements are correlations between constructs. For discriminant validity, diagonal elements should be larger than off-diagonal elements in the same row and column.

the items were constructed as shown in Table 4.

#### 4.3. Analysis

To analyze the research model we used the Partial Least Squares (PLS) analysis using the SmartPLS 2.0 software (Ringle, et al., 2005). Following the recommended two-stage analytical procedures by Anderson and Gerbing (1988), we tested the measurement model (validity and reliability of the measures) followed by an examination of the structural model (testing the hypothesized relationship) (see Hair et al., 2013; Ramayah et al. 2011; 2013). The Smart PLS M2 Version 2.0 and two-step analysis approach was used to analyze the data. To test the significance of the path coefficients and the loadings a bootstrapping method (1000 resamples) was used (Gholami et al., 2013).

#### 4.4. Measurement Model

Convergent validity is the degree to which multiple items measuring the same concept are in agreement (Ramayah & Rahbar, 2013). The convergence validity of the measurement is usually ascer-

tained by examining the loadings, average variance extracted and also the composite reliability (Gholami et al., 2013). The loadings were all higher than 0.5, the composite reliabilities were all higher than 0.7 and the AVE were also higher than 0.5 as suggested in the literature (see Table 5). The discriminant validity of the measures (the degree to which items differentiate among constructs or measure distinct concepts) (Ramayah & Rahbar, 2013) was examined by comparing the correlations between constructs and the square root of the average variance extracted for that construct (Gholami et al., 2013). As can be seen from Table 6, all the square root of the AVE was higher than the correlations values in the row and the column indicating adequate discriminant validity (Fornell & Larcker, 1981).

#### 4.5. Structural Model

Structural model shows the causal relationships among constructs in the model (path coefficients and the  $R^2$  value). Together, the  $R^2$  and the path coefficients (beta and significance) indicate how well the data support and hypothesized model (Chin 1998;



**Table 7.** Hypothesis Testing

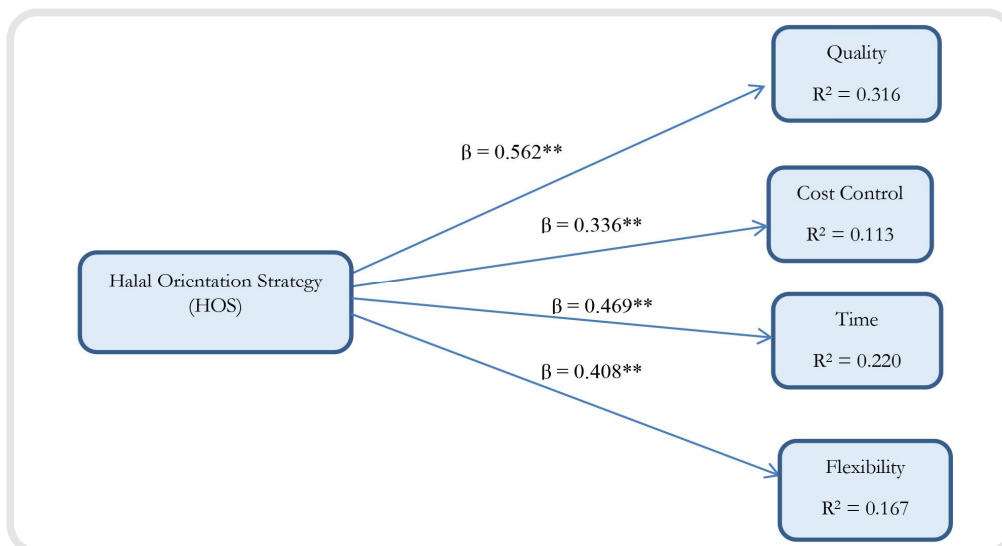
Hypothesis	Relationship	Beta	Std Error	t-value	Decision
H1	HOS → QUALITY	0.562	0.060	9.391**	Supported
H2	HOS → COST CONTROL	0.336	0.086	3.917**	Supported
H3	HOS → TIME	0.469	0.050	9.375**	Supported
H4	HOS → FLEXIBILITY	0.408	0.075	5.433**	Supported

Notes: \*\* $p < 0.01$ (2.33), \* $p < 0.05$ (1.645); (based on the one-tailed test)

Sang et al. 2010; Ramayah et al., 2011). Table 7 and Figure 2 show the results of the structural model from the PLS output. Halal Orientation Strategy (HOS) were positively related to Quality ( $R^2=0.316$ ,  $\beta=0.562$ ,  $p < 0.01$ ), Cost Control ( $R^2=0.113$ ,  $\beta=0.336$ ,  $p < 0.01$ ), Time ( $R^2=0.220$ ,  $\beta=0.469$ ,  $p < 0.01$ ), and Flexibility ( $R^2=0.167$ ,  $\beta=0.408$ ,  $p < 0.01$ ). These findings support H1, H2, H3 and H4 of this research.

Next  $Q^2$  which measures predictive relevance was tested via the blindfolding

procedure. This procedure omits a part of the data for a particular block of indicators during parameter estimations and then attempts to estimate the omitted part using the estimated parameters Chin, 2010). Chin (2010) also suggested that the omission distance can be any number from 5 to 10 as long as the sample is large. As proposed by Fornell and Cha (1994) a  $Q^2 > 0$  implies the model has predictive relevance whereas  $Q^2 < 0$  represents a lack of predictive relevance. Using

**Fig. 2.** Hypothesis Testing Results

the blindfolding procedure we can calculate the cross validated communality (cv-comm) and cross validated redundancy (cv-red) but Chin (2010) suggested that one would use the cross-validated redundancy measure to examine the predictive relevance of one's theoretical/structural model (Chin, 2010). Thus we calculated the cross validate redundancy for 4 endogenous constructs Quality, Cost Control, Time and Flexibility (see Figure 2). The  $Q^2$  values were 0.268, 0.094, 0.173 and 0.150 respectively indicating the model has predictive relevance.

## V. Discussion and Conclusion

The four hypotheses in this research identified that HOS positively affects the operational outcomes amongst halal food firms. The operational outcomes were operationalised by four important dimensions, quality, cost control, time and flexibility. These four dimensions showed the effectiveness of the operational performance on staffing, materials, production process, and storage and transportation. By implementing HOS in halal food firms would result in staffing, materials, and storage and transportation to have a positive and significant effect on quality, cost control, time in delivery and flexibility in the production. As the result, by implementing HOS the halal food firms in Malaysia plausible to have a positive operational performance in the long run. This result is in line with the literature, which mentioned that by focusing on HOS, the halal food firms would be able to improve their performance in the quality of the food products. In food and bev-

erages firms, quality is the main attribute of customer loyalty and buying attention (Fandos & Flavián, 2006). Therefore, the impact of implementing HOS in halal food firms in Malaysia could be directly linked to the main attributes of customer loyalty and buying behaviour for halal food products, which should be an important aspect to be focused on.

The study indicates that by implementing HOS in the halal operation of the food firms, staffing, materials, and storage and transportation would have a positive significant effect also on cost control of halal products in Malaysia. Therefore, the impact of implementing HOS in halal food firms in Malaysia could be directly associated with the operation of the companies of Halal food to be sustainable. It is important to understand the obligation of every Muslim to consume only halal food and avoid food non-halal or 'haram', or food that contains 'najs or contaminated food with non-halal. The impact of globalization and scientific technology in this modern world allows the question on the accountability of halal food in following the halal requirements, which may affect the genuine quality of halal food products. By implementing the HOS, the flexibility and time allocation to produce new halal food products and delivery time to customers can be reduced and controlled accordingly to the customer requirements. At the same time HOS helps to adjust to the volume, variety and process of the halal food production.

In halal issues the perception on halal food does not only cover the rituals of Islamic norms such as animal slaughtering, but also encloses all aspects of clean-

liness, safety, preparation, storage and purification called 'tayyibah' or wholesome aspects (Zulkefli, 2005). Theoretically and practically, the organization is interested in making profit, providing good services or optimum product quality to customers and at the same time satisfying the needs, well-beings and social responsibilities both to customers and to their employees (Rue & Byars, 1986). As to ensure the means and goals achieved in the halal food industry, it plausible to apply Halal Orientation Strategy or HOS as to ensure the companies able to focus clearly in their production and at the same time will lead to positive outcomes.

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