Abstract

Purpose – Although the halal orientation strategy (HOS) plays a key role in protecting the halal status of any product, research on the impacts of HOS on the financial performance of halal firms is lacking in the literature. As the main objective of all companies is to maximize their profit, this study aims to examine the influence of HOS on the financial performance of halal food firms with respect to halal culture as a moderator.

Design/methodology/approach – Data were obtained from a survey of 154 halal food firms in Malaysia and were analyzed using the partial least squares technique.

Findings – The results indicate that halal materials and halal storage and transportation positively affect financial performance, whereas the halal production process negatively affects financial performance. It is also interesting to observe that halal culture moderates the relationship between the production process and the financial performance of the firm.

Practical implications – The findings can help managers of halal food firms to enhance the financial performance of their respective firms by investing in HOS and giving attention to halal culture. It also helps decision makers to understand the importance of revising requirements for halal certification.

Originality/value – This study also contributes to the advancement of knowledge on the relationship between HOS and the financial performance of halal food firms.

Keywords Malaysia, Operation management, Financial performance, Halal orientation strategy, Halal food, Halal production

Paper type Research paper

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Introduction

In 2014, the number of Muslims in the world reached 1.7 billion, and this figure is predicted to reach 2.2 billion by 2030 at an annual growth rate of 1.5 per cent, which is twice as fast as the rate for non-Muslims (Reuters, 2014). The Qur’an specifically instructs Muslims to only consume halal food. As such, this population only consumes foods that are aligned with their religious principles (Rahman et al., 2013).

“Halal” is defined as lawful or permissible (Al-Qaradawi, 2013). In other words, Muslims consume halal food to abide by their food choices based on their religious principles. Therefore, the “tayyib” of halal food — including its safety, nutrition, cleanliness and storage — must be ensured (Kamaruddin and Jusoff, 2009). Along with tayyib, halal guarantees the safety of a particular food product (Muhammad, 2007; Hassan, 2011).

In 2013, the net worth of the halal food industry reached about US$1.292bn, and this figure is predicted to increase to US$2.537bn by the end of the decade (Thomson Reuters, 2014). Given the increasing international demand for halal foods, several food firms all over the world have begun to enter the halal market (Zakaria and Abdul-Talib, 2010). However, on the one hand, previous studies have shown that the current requirements of halal certification are not cost-effective (Zailani et al., 2017; Talib et al., 2010). On the other hand, the halal market is big, and by meeting these halal requirements, firms can reach this market (Soltanian et al., 2016). As such, the impact of implementing halal practices on firms’ financial performance is questionable. In other words, the halal industry has been converted to a profitable and appealing market because halal products are available to a very large market. Nevertheless, as gaining halal certifications is not an easy or cost-effective process, the price of halal products might rise, which in turn, negatively influences demand. As profit is the main objective of every firm, it is necessary to investigate the effect of halal practices on financial performance.

A food item may easily lose its halal status when contaminated during transport and storage prior to its sale (Pahim et al., 2012). Therefore, given that a logistics chain bridges the gap between production (where halal is certified) and consumer purchase (where the halal food is sold), it plays a crucial role in ensuring the integrity of halal food during its consumption (Tieman, 2011). Halal firms must, thus, implement an operation strategy to integrate halal requirements into their supply chains. Zailani et al. (2015a) defined the halal orientation strategy (HOS) as a strategic operation strategy that can help firms to comply with halal requirements. By helping them to focus on important resources and capabilities, HOS may enhance the financial performance of these halal firms. However, there is a lack of empirical research on this topic. In response, this study empirically investigates the effects of HOS on the financial performance of halal firms. The present findings can contribute to the current literature by addressing the question of whether strategies of halal orientation have negative or positive impacts on the halal firms’ financial activities. Understanding this relationship will help the managers of halal food firms to enhance their firms’ financial performance and enhance their position in the market.

Organizational culture is one of the key organizational assets that facilitate the successful implementation of strategies (Zailani et al., 2015b). Zheng et al. (2010) argued that organizational culture is highly related to firm performance and determines the effectiveness of firms’ strategy implementation. Some special cultures within organizations could possibly result in more efficient financial performance (Ogbonna and Harris, 2000). Some practitioners and specialists believe that the degree to which the cultural values are shared determines the impact of a company’s capabilities and resources on its financial performance (Ali et al., 2016; Saad and Asaad, 2015). Despite its importance, no research exists concerning how halal culture (as a type of organizational culture) moderates the
impacts of HOS (as resources of halal firms) on halal firms’ financial performance. It is important to bear in mind that companies’ organizational culture varies and is susceptible to management changes (Hodges and Hernandez, 1999). Therefore, recognizing the potential significance of halal culture in increasing financial activities will encourage halal firms’ managers to promote the values of halal culture. In addition, an investigation of the role of halal culture may extend the literature by refining our conceptual understanding of the linkages between HOS and financial performance.

Literature review

Halal studies

There are three major categories of research on the halal industry. The first stream of studies attempts to identify the halal and haram factors in the halal industry and Shariah (Kamali, 2010; Akhmetova, 2016). The second category of research examines the halal industry from clients’ point of view (Fathi et al., 2016; Kamaruddin et al., 2012). As Zailani et al. (2015a) and Wilson (2014) argue, as Muslims’ information about their religion increases, they will become more fastidious about the types of services and products that they receive. In addition, non-Muslims have been indirectly attracted to the halal standard, as such standardization stresses the products’ unique quality (Rajagopal et al., 2011). The result is that halal products form a great market, and that manufacturers try hard to gain halal certification, and thus, to be identified with a halal logo to reassure and inform their target clients of the agreement between the quality of their products and halal standards and Shariah compliance (Shafie and Othman, 2006). Finally, the third stream of studies investigates the challenges and problems with satisfying halal requirements to gain the halal logo. Tieman (2011) and Zailani et al. (2017) argue that the inefficiency of the halal certification authority has negatively impacted the halal industry. With regard to the demand from non-Muslims, the price of halal-certified products needs to be competitive in relation to non-certified products. As mentioned above, the inquiries of the present halal authorities cannot be easily fulfilled and are not cost-effective (Zailani et al., 2017). As a result, the effects of conducting halal practices on the financial activities of halal firms could be questioned. On the one hand, there is a big market which largely demands the production of halal products and which could be targeted by these companies. On the other hand, fulfilling halal requirements is costly, which accordingly causes an increase in the ultimate price.

Tieman (2011) believes that the halal status of food and products is not restricted to their raw ingredients or materials, and that the halal quality could be questioned if the products are exposed to haram at any point in the entire supply chain process, such as storing and transportation. According to a proposal by Zailani et al. (2015a), HOSs could be classified into halal materials, halal staffing, halal production processes, halal storage and halal shipping. In other words, the halal status of products is certified via halal ingredients and raw materials. For instance, at least two Muslims should observe the whole process of production, tools, production lines, piping, conveyors or any other requirements, which should be free from non-halal ingredients for halal production. Contamination should be prevented in advance by keeping non-halal food products in separate storage during shipping and distribution. Although these activities might be costly, there are many clients and customers who are seeking halal products. The present study aims to investigate the effects of these four halal orientations on halal firms’ financial performance.
Halal orientation strategy

A "strategy" refers to a plan that combines various elements, such as organizational policies, goals and actions, to ensure effective and appropriate organizational resource allocation (Quinn, 1988). Firms devise their own strategies according to their competencies, limitations and anticipated changes, as well as the contingent moves of their competitors. These strategies serve to differentiate an organization from its competitors (Porter, 1996).

“Operation management” refers to the process of generating finished goods or services (Slack et al., 2010; Heizer and Render, 2013). This must be guided by operation strategy to be considered economically successful (Heizer and Render, 2013). Business organizations in competitive markets need to establish a competitive advantage to survive. Wilson and Liu (2010) believe that halal competitive advantage plays a critical role, as it is delivered by means of the tacit parameters of management and strategy. In this case, organizations or firms in the halal industry can secure competitive advantage by devising unique business strategies. Given that HOS ensures that the principles of halal are being followed by food producers, these organizations must carefully consider their long-term decisions, which can predict their long-term operational performance. Hence, HOS not only serves as a reference when devising new strategies, but may also be used by halal food firms in seeking a novel and valuable business direction. Therefore, HOS may be used as a source of competitive advantage (Zailani et al., 2015a). Based on the guidelines of MS 1500:2004 (Malaysian Standard, 2004) for producing, preparing, handling and storing halal food, and Slack et al.’s (2010) categorization of operation strategies, HOS has been categorized by Zailani et al. (2015a) into the following elements: halal materials, halal production process, halal staffing and halal storage and transportation. The implementation of HOS can help firms to maintain their control over these four categories.

Halal firms have to make sure that their employees are recognizant of halal requirements to keep their products halal during the whole process. Further, companies need to prepare their staff through training activities to meet halal requirements (HDC, 2010). The key element of the concept of halal products is the materials. To make sure that the final products are halal, all ingredients or raw materials should be halal and should not contain any non-halal materials in small or large quantity (HDC, 2010). Food needs to be processed, prepared or produced by means of tools and equipment which are exempt from any non-halal contaminating elements. The whole process of food production, including preparation, equipment, piping, production lines and conveyors, should be clean and exempt from any non-halal contaminants (HDC, 2010). Prior to storage and transportation, halal products should undergo a precise and thorough cleaning process. Non-halal and halal food products should remain separate from each other during storage, transportation and distribution to avoid contamination (Tieman, 2011; Ab Talib et al., 2015). Commitment to following HOS in halal food firms verifies control of materials, staffing, production processes, storage and shipping. The present study explores the influence of HOS on the financial activities of halal firms.

Financial performance

The concept of financial performance has been widely used in the literature to measure the outcomes of various activities (Zainuddin et al., 2017; Yusof et al., 2017). Chen and Paulraj (2004) argued that financial performance should be the main concept of firms’ performance because the primary goal of an organization is to make profits for shareholders. Financial performance measures the firm’s profitability and market growth. Although implementing HOS ensures that halal principles are being followed by halal firms and minimizes the risk of contamination, as Zailani et al. (2017) stated, the main objective of halal firms is to
maximize their profit. HOS may have a positive or a negative impact on firms' financial performance. For example, on the one hand, storing halal products in a separate warehouse may increase the production cost and, consequently, lead to lower financial performance. However, on the other hand, by implementing halal practices, the firm can access the large halal market, which will increase its financial performance. Considering the importance of financial performance and the unclear relationships between HOS and financial performance, these relationships were investigated in this study.

**Halal culture**

Numerous definitions for organizational culture abound in the literature. Researchers unanimously believe that organizational culture should be described in light of patterns of beliefs and models of values which are demonstrated in behaviors, practices and different artifacts produced by organizational members (Trice and Beyer, 1993; Pothukuchi et al., 2002). Previous research has stressed a close relationship between organizational culture and companies' activities (Chan et al., 2004; Naranjo-Valencia et al., 2016). According to Ogbonna and Harris (2000), organizational culture has the potential to yield competitive advantage for its owners as long as the managers are able to specify the organization's boundaries in a distinct way which accelerates individual interactions or restricts the area of information processing to suitable levels. Moreover, firmly held and widely shared values assist managers to determine employees' reactions to some specific strategic options by limiting the scope for undesirable results.

Its innate tacitness, specificity and complexity (Reed and DeFillippi, 1990; Chan et al., 2004) cause organizational culture to be one of the most difficult organizational resources to duplicate or imitate (Mueller, 1996). Organizational culture strengthens other kinds of resources by inducing competitive advantage and accordingly promoting the firm's performance (Chan et al., 2004). Halal culture could be viewed as an organizational culture and refers to the employees' awareness of halal practices, combined with the real things that are done (Frederick, 1995). The spread of halal culture among employees can assist the management in implementing HOSs effectively and efficiently, and consequently, minimize the overall contamination risk attributed with the least expenditure. Halal culture provides employees with detailed directions, creates a focused workplace for halal activities and issues transparent guidance for dedicating halal resources to firm performance. Therefore, it could be argued that not only does halal culture lubricate the superior halal performance of the company; it also reinforces the influence of other resources, such as HOS, in companies' activities. The interaction between halal culture and firm performance, such as the process of production, transportation and storage, should be elaborated to clarify the possible interaction between HOS and halal culture. A halal culture which requires workers to be mindful of halal activities augments a firm's attempt to perform the halal concepts in different stages of production or transportation. Halal culture is contingent on the complexity of each company, and it is imperative to have employees who can preserve products from contamination independently in global and complex organizations.

**Resource-based view**

The resource-based view (RBV) is a theory which is supposed to secure performance and competitive advantages based on two concepts, namely, capabilities and resources. The core of the RBV theory is resources, because it is the resources which inject input into the firms' activities and processes (Grant, 1991). On the other hand, capabilities emerge as an outcome of the firm's capacity to produce process values through blending, providing and using the available resources (Amit and Schoemaker, 1993). In other words, resources are more
concerned with firms’ possessions, while capabilities are more oriented toward firms’ activities (Olavarrieta and Ellinger, 1997). Halal firms utilize HOSs as their strategic resources. Based on the theory of RBV, competitive advantage could be gained and sustained if a firm is successful in applying a strategy which is impossible for other firms to duplicate or copy (Barney, 1991). As halal firms could efficiently manage their HOS in a halal supply chain, they have more potential to achieve competitive capabilities. Efficient management practices in a world-class halal supply chain are more likely to contribute to superior financial performance and outcomes. Nevertheless, if the HOS acts alone, it will be difficult to fulfil the inquiries of the RBV, as other firms have low barriers for duplication or imitation. Halal firms could rely on halal culture: a resource that is difficult to imitate, valuable and irreplaceable by other types of resources. The interaction between HOS and halal culture creates a capability that other firms find difficult to duplicate. Accordingly, the present research used halal culture as a moderator.

**Conceptual framework**

This section describes the conceptual framework (Figure 1) and its hypotheses. Our conceptual framework is based on the premise that any changes in the level of HOS implementation are related to changes in the firm’s financial performance. We further propose that halal culture influences the relationship between HOS and financial performance. In the next section, hypotheses are developed based on the literature.

*Halal staffing and financial performance*

Halal staff are people in charge of managing the operations of halal food firms (Slack et al., 2010). Staff centrality is important in the halal industry because staff members must understand the halal requirements needed to manufacture halal food products (HDC, 2010). According to Dessler (2014), “human resources” refers to the knowledge, education, training, skills and expertise of the employees of a firm. The skill and knowledge of employees generate superior rents and ensure a firm’s intensive financial performance (Menor et al., 2001). Many authors have stated that the financial performance of a firm depends on its human resources (Wright et al., 1994; Barney, 2001; Kazlauskaite and Buciuniene, 2008). Human resources are currently perceived as an indispensable part of a company and require proper management to have a positive effect on financial performance (Progoulaiki and Theotokas, 2010). Employees in the halal industry can contribute in enhancing financial performance through their low wages, knowledge, performance or commitment to the goals.
of their firms. Fotopoulos et al. (2011) demonstrated that knowledge, skills and staff commitment were crucial to the effective implementation of halal practices. Tieman et al. (2012) stated that operations staff members should undergo intensive training to ensure the halal integrity of logistics operations. Therefore, the following hypothesis is proposed:

\[ H1. \text{ Halal staffing positively affects the financial performance of halal food firms.} \]

**Halal material and financial performance**

Materials comprise the central element of halal food production. To ensure that the end products comply with the principles of halal, the "halalness" of the raw materials or ingredients must also be ensured (HDC, 2010). As has been reported, companies that focus on the quality of their raw materials are capable of achieving higher sales (Olbrich and Jansen, 2014). The prices of raw materials are also very important, as they account for 60 to 85 per cent of the total expenditures of a firm (Nilssen et al., 2015). Therefore, raw material prices can significantly affect the cost control of halal food companies and, consequently, impact their financial performance. Using halal ingredients provides the chance for halal companies to access the extensive halal market (Zailani et al., 2017). Based on the above, the following hypothesis is developed:

\[ H2. \text{ Halal material positively affects the financial performance of halal food firms.} \]

**Halal production process and financial performance**

Uncontaminated and non-halal-free equipment and facilities must be used when producing halal food products. All other equipment used in the production, storage, and transportation of these products must also be purified of non-halal elements (HDC, 2010). At the same time, the production process must be verified to guarantee that the halal food products are in line with Islamic principles. These products must also be labeled to assure consumers that the products they are purchasing have been manufactured in accordance with halal production methods (van der Spiegel et al., 2012) and with the Islamic requirements for food production. Previous studies revealed the important role of the halal production process in satisfying Islamic food requirements (Talib et al., 2008). Although halal practices may lead to higher production process costs, by providing a big market for halal companies, they can lead to higher financial performance (Talib et al., 2010; Zailani et al., 2017). Therefore, the following hypothesis is developed:

\[ H3. \text{ The Halal production process positively affects the financial performance of halal food firms.} \]

**Halal storage and transportation and financial performance**

A food product may easily lose its halal status if it is contaminated during transport and storage prior to its sale (Pahim et al., 2012). Hence, to prevent contamination, halal products must be separated from non-halal ones during transportation and distribution (Tieman, 2011; Ab Talib et al., 2015). Previous studies have shown that halal storage and transportation practices play important roles in the final costs of halal products (Ab Talib et al., 2013; Zailani et al., 2017). For example, Zailani et al. (2017) stated that storing halal products in a separate warehouse and using different tools to handle them require logistic companies to invest heavily in halal logistics, which may lead to higher halal storage and
transportation costs. Nonetheless, due to Muslims’ willingness to pay a higher price for halal products and the large size of the halal market (Fathi et al., 2016), the following hypothesis is developed:

\[ H4. \text{Halal storage and transportation practice positively affects the financial performance of halal food firms.} \]

**Moderating effect of halal culture**

Tan et al. (1998) suggested that organizational culture is one of the most critical elements to optimize the performance of firms and the individual departments acting within them. According to Abu-Jarad et al. (2010), organizational culture affects various employees and organizational outcomes. By establishing a halal culture among the employees at the base level through the delegation of authority, the protection of halal products will be at the highest level and able to preserve products from contamination. Furthermore, halal culture may motivate employees to implement HOS effectively. This means that halal culture creates an opportunity for firms to safeguard their halal operations and will help firms to implement HOS more effectively. Ray et al. (2004) demonstrated that applying firms’ strategies yields a significant competitive advantage which eventually results in more efficient financial performance. Therefore, it is expected that the impact of halal culture on more effective implementation of HOS will lead to higher financial performance in halal firms. Hence, the following hypotheses are developed:

\[ H5. \text{Halal culture moderates positively the effects of (a) halal staffing, (b) halal materials, (c) halal production process and (d) halal storage and transportation on the financial performance of halal food firms.} \]

**Research methodology**

**Measurement of constructs**

A quantitative survey was performed using a structured questionnaire that was divided into four sections: basic personal and company information, HOS, halal culture and financial performance. A five-point Likert scale was used to measure all items, except for the basic personal and company information of the respondents. The items were adapted from previous studies to ensure content validity. The scales for HOS were adapted from Zailani et al. (2015a). The items on halal culture were adapted from Zailani et al. (2015b), while the items for financial performance were adapted from Yusof et al. (2017).

Before collecting data, the content validity of the survey instrument was determined through a pre-test in two stages. The first stage required three skilful researchers to consider the questionnaire in terms of items’ appropriateness, clarity and ambiguity to realize to what extent the construct are operationalized (Cooper and Schindler, 2001). Researchers’ feedback helped to modify the instrument to augment the appropriateness and clarity of items. Concerning the second stage, the survey was sent to two managers of halal beverage and food companies, who were asked to consider the survey for readability, structure, completeness and ambiguity.

**Data collection and sample**

All halal food and beverage firms in Malaysia were considered in the sampling. A list of 723 halal food manufacturing firms was obtained from the 2016 Federation of Malaysian Manufacturers Directory. Due to the small scope of sampling and the low rate of responses
to the mail survey (Sekaran and Bougie, 2009), the decision was made to have 723 samples
via census sampling. Census sampling also helps to eliminate randomly selected samples
which might not appropriately represent the whole population (Sekaran and Bougie, 2009).
Managerial personnel who were in charge of the production, operation and quality control of
the targeted firms were selected as the respondents. Company owners represented the small
firms that participated in the survey, because they were more knowledgeable about their
company operations and had strong influence over the operations and decisions in their
firms. We phoned the target companies to record the contact information and names of the
appropriate respondents. A structured mail questionnaire was then mailed to each
respondent, accompanied with a cover letter elaborating the purposes of the study and its
possible outcomes. Follow-up calls were made two weeks later to increase the response rate.
Of the 723 companies contacted, a total of 614 surveys were disseminated and 154 valid
responses were received, yielding a 21.3 per cent response rate in terms of the number of
companies contacted through phone calls and 25.1 per cent in terms of the number of
distributed questionnaires. A t-test was run on late and early responses to identify possible
non-response bias. The results showed no statistically significant difference between the
two samples (King and He, 2005).

Analysis
To test the research model, the partial least squares (PLS) technique of structural equation
modeling was performed using SmartPLS Version 3.0. This technique was selected because
of the exploratory nature of the study (Hair et al., 2011). As recommended by Hair et al.
(2017), this study applied a two-step approach for data analysis, in which the measurement
model was analyzed in the first step and the structural relationships among the latent
constructs were assessed in the second step (Zailani et al., 2016; Kurniawan et al., 2017). This
approach was adopted to determine the reliability and validity of the measures before
testing the structural relationship of the model.

Results
Sample
According to the discriminant analysis, 22.1 per cent of the respondents came from large
firms and 76.9 per cent of them came from small firms with not more than 150 employees.
Around 46.8 and 53.2 per cent of the participating halal food firms were owned by Muslims
and non-Muslims, respectively. Most of these firms (70.8 per cent) were operating for over
ten years, 15.6 per cent were operating for 5 to 10 years and 13.6 per cent were operating for
less than five years. Half of these firms specialized in processed (31.8 per cent) and ready-to-
eat (24.7 per cent) halal products, while the remaining firms specialized in confectioneries
(16.9 per cent), beverage (14.3 per cent) and frozen food (12.3 per cent).

Measurement model results
The reliability and validity of the reflective constructs were assessed. Specifically, composite reliability (CR) was assessed in connection with internal reliability, similar to
Cronbach’s alpha. Table I shows that the CR of all constructs were above 0.7, satisfying the
rule of thumb that those items with loadings of at least 0.6 were acceptable (Hair et al., 2017).
Individual item reliability was reasonably judged, given that the loadings of each scale were
all greater than 0.6. Convergent validity was evaluated using average variance extracted
(AVE). The AVEs of all constructs were above 0.5, indicating satisfactory convergent validity (Fornell and Larcker, 1981).
Two approaches were used to assess the discriminant validity of the constructs (Iranmanesh et al., 2017; Weng et al., 2017). First, the cross loadings of the indicators were examined, in which no indicator loads were higher than any opposing construct (Hair et al., 2012). Second, according to the Fornell and Larcker (1981) criterion, the square root of the AVE for each construct should exceed the intercorrelations of the construct with the other model constructs (Table II). Both analyses confirmed the discriminant validity of all constructs.

Table I.
Measurement model evaluation

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Factor loadings</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing (SF)</td>
<td>Employees in halal food production…</td>
<td>0.83</td>
<td>0.549</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adequate training given in handling halal food</td>
<td>0.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understand the procedures of handling halal food</td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understand the Islamic requirements in halal food</td>
<td>0.71</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Competent in carrying out the responsible duty</td>
<td>0.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials (MT)</td>
<td>All raw halal materials, including ingredients must be…</td>
<td>0.86</td>
<td>0.560</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ensured genuine purity</td>
<td>0.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Halal</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ensured clean based on the halal concept</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ensured have quality based on the halal concept</td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>From suppliers which have a valid halal certification</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production process (PP)</td>
<td>Processing equipment and machines provided are hygienic approved by JAKIM</td>
<td>0.87</td>
<td>0.87</td>
<td>0.627</td>
</tr>
<tr>
<td></td>
<td>Sanitation and cleanliness of production area are maintained in compliant to Syari’ah requirements approved by JAKIM</td>
<td>0.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Serious attention to the utensils and gadgets used to the contamination issue of halal and non-halal products</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The standard procedures in food operation fulfill the halal concept</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage and transportation (ST)</td>
<td>My company ensures…</td>
<td>0.84</td>
<td>0.86</td>
<td>0.551</td>
</tr>
<tr>
<td></td>
<td>Dedicated transportation for halal food products</td>
<td>0.75</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Dedicated infrastructure or halal food products</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clean and hygienic storage facilities that fulfill Syari’ah law JAKIM requirements</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clean and hygienic transportation that fulfill Syari’ah law JAKIM requirements</td>
<td>0.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Halal culture (HC)</td>
<td>Senior manager views halal practices as a competitive advantage</td>
<td>0.75</td>
<td>0.88</td>
<td>0.595</td>
</tr>
<tr>
<td></td>
<td>Make sure that halal practices are the first thought on the mind of all employees</td>
<td>0.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Make halal practices the norm for all employees</td>
<td>0.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dedicated efforts to create halal practices-focused workforce</td>
<td>0.81</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Make sure that all employees are vigilant toward halal practices</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial performance (FP)</td>
<td>For the past three years, my firm has achieved significant…</td>
<td>0.89</td>
<td>0.667</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improvement in its profit</td>
<td>0.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improvement in the average return on investment</td>
<td>0.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduction in operational costs</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improvement in economic growth</td>
<td>0.79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: CR = composite reliability; AVE = average variance extracted
Assessment of the structural model

The measurement model yielded satisfactory results, and the structural model was evaluated subsequently. The predictive accuracy of the model was evaluated based on the explained variance portion, and the results showed that the model can explain 18.3 per cent of the variance in financial performance. Apart from estimating the magnitude of $R^2$, the predictive relevance proposed by Stone (1974) and Geisser (1975) was performed for additional model fit assessment aimed at determining the ability of the model to predict the manifest indicators of each latent construct. Stone–Geisser $Q^2$ (cross-validated redundancy) was computed to examine predictive relevance using a blindfolding procedure in PLS. Following the guidelines of Chin (2010), a $Q^2$ value greater than zero implies the predictive relevance of the model. In the current study, the $Q^2$ value of 0.142 was obtained for cross-validated redundancy, which exceeded zero by far. Therefore, the proposed model exhibited acceptable fit and high predictive relevance.

Non-parametric bootstrapping was applied (Wetzels et al., 2009) on 2,000 replications to test the structural model. All the paths in main model were significant with the exception of $H1$. Although the impact of production process on financial performance was significant, it was in negative way. As such, $H2$ and $H4$ were supported, whereas $H1$ and $H3$ were not supported.

The product indicator approach (mean-centered) was used to create an interaction construct (Hair et al., 2017). The results indicated that the interaction of halal culture and production process has a positive significant effect on financial performance ($\beta = 0.186, p < 0.05$). Hence, $H5c$ was supported, whereas $H5a$, $H5b$ and $H5d$ were not supported (Table III).

Figures 2 illustrates that production effect has mostly no effect on financial performance of firms with high halal culture, but has negative effects among firms with low halal culture.

Discussion

This study aimed to investigate the effect of HOS on the financial performance of halal food firms by considering halal culture as a moderator. We find that, although halal materials and storage and transportation practices have positive effects on financial performance, the production process actually has a negative effect. Halal culture only moderates positively the relationship between the production process and the financial performance of halal firms.

According to these results, halal staffing did not have any effect on halal firms’ financial performance. This might be because halal firms have a low salary contribution for workers with Islamic knowledge in their costs. The firms are bound to pay their workers, regardless of their knowledge on halal practice. Another reason is the balance between profits and costs in halal staffing. Fotopoulos et al. (2011) reported that the knowledge, skills and commitment of staff members are critical in meeting the halal requirements and effective implementation.

<table>
<thead>
<tr>
<th></th>
<th>SF</th>
<th>MT</th>
<th>PP</th>
<th>ST</th>
<th>HC</th>
<th>FP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>MT</td>
<td>0.63</td>
<td>0.77</td>
<td></td>
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<tr>
<td>ST</td>
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<tr>
<td>HC</td>
<td>0.48</td>
<td>0.56</td>
<td>0.37</td>
<td>0.54</td>
<td>0.77</td>
<td></td>
</tr>
<tr>
<td>FP</td>
<td>0.32</td>
<td>0.37</td>
<td>−0.40</td>
<td>0.32</td>
<td>0.41</td>
<td>0.82</td>
</tr>
</tbody>
</table>

Table II. Discriminant validity coefficients

Note: Diagonal terms (in italic) are square roots of the AVE
of halal practices. Therefore, there is an urgent need for Islamic training to increase employees’ knowledge of requirements in halal food production. Although companies might pay a lot for Islamic training, this is a worthwhile expense, because such training has an effective role in halal practices and, ultimately, maintains a balance between profits and costs. To justify the present claim, future research could examine the mediating role of organizational cost and competitive advantage.

Halal materials have significant effects on firms’ financial performance. This result is in line with the findings of Nilssen et al. (2015) and Swafford et al. (2006), who also indicate that ensuring the cleanliness and quality of ingredients according to the halal concept and providing ingredients from suppliers with valid halal certifications can help halal firms to achieve higher competitive advantage in terms of quality. Therefore, a halal firm can simultaneously improve its quality and its financial performance by developing a proper strategy for the use of halal materials. Moreover, improvements in product quality will not lead to higher product prices.

The halal production process has a negative effect on financial performance. The potential reason for this is that the present Malaysian standards are not cost-effective. For example, the use of different tools for handling halal products and the cost of halal monitoring will lead to higher fixed and variable production costs. Zailani et al. (2017) also indicated that halal certification agencies have insufficient knowledge and understanding of

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationships</th>
<th>Path coefficient</th>
<th>p-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>SF -&gt; FP</td>
<td>0.136</td>
<td>0.073</td>
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</tr>
<tr>
<td>H2</td>
<td>MT -&gt; FP</td>
<td>0.157*</td>
<td>0.037</td>
<td>Supported</td>
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<tr>
<td>H3</td>
<td>PP -&gt; FP</td>
<td>-0.221*</td>
<td>0.013</td>
<td>Not supported</td>
</tr>
<tr>
<td>H4</td>
<td>ST -&gt; FP</td>
<td>0.282**</td>
<td>0.004</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Moderating effect of halal culture

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationships</th>
<th>Path coefficient</th>
<th>p-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H5a</td>
<td>HC* SF -&gt; FP</td>
<td>0.206*</td>
<td>0.018</td>
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<tr>
<td>H5b</td>
<td>HC* MT -&gt; FP</td>
<td>0.031</td>
<td>0.378</td>
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<tr>
<td>H5c</td>
<td>HC* PP -&gt; FP</td>
<td>0.018</td>
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<td>Not supported</td>
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<td>H5d</td>
<td>HC* ST -&gt; FP</td>
<td>0.186*</td>
<td>0.035</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Notes: t-values are computed through bootstrapping procedure with 154 cases and 2,000 samples; *p < 0.05 **p < 0.01 (one-tailed)
halal practices, and consequently, by developing unnecessary regulations, cause higher production costs and lower financial performance. The halal authorities should understand that the main objective of all firms is profit maximization, and unnecessary regulations will create hardship for firms that produce halal products and will reduce the attractiveness of investing in halal production. Tieman et al. (2012) also emphasized that halal practices should not significantly increase costs for halal firms, because this factor is an important determinant in seamlessly adopting halal practices. Therefore, JAKIM must revise its requirements to help firms meet halal requirements while minimizing the extra cost of halal practices.

Halal storage and transportation have significant effects on firms’ financial performance. Riaz and Chaudry (2004) reported that the separation of halal and non-halal food products should be practiced in both transportation and storage to avoid contamination and to preserve the quality of halal products. In contrast to previous studies (Jafaar et al., 2011; Ab Talib et al., 2013), the current study shows a positive relationship between integrating halal practices in transportation and storage and the financial performance of halal firms. Halal firms’ intent to outsource their warehousing and transportation activities could be a potential reason for the positive impact of halal storage and transportation on financial performance. The high requirements of JAKIM for halal transportation and storage push halal firms to shift from using the typical logistics services provided by core firms to using third-party halal logistics (3PL) services. Many halal firms in Malaysia prefer to execute their own logistics services; however, halal requirements drive these firms to use 3PL service providers. Previous studies have shown that using 3PL services will reduce the cost of logistics as well as improve the quality and flexibility of halal firms (Anderson et al., 2011; Zailani et al., 2018).

The results show that halal culture only moderates positively the relationship between the production process and financial performance. This result implies that halal culture can minimize the negative effect of the production process on financial performance. It suggests that, because revising the halal requirements will take time, it is crucial for managers of halal firms to do the necessary work to enhance their employees’ vigilance toward halal practices, to create a halal-focused workplace and to make halal practices the norm for all employees. The potential reason why halal culture only moderates the impact of the production process and has no moderating effect on the impacts of staffing, materials and storage and transportation is that because suppliers provide halal materials and halal storage and transportation services are outsourced to 3PL companies, these performances are strongly dependent on the halal logistics service and supply staff. Preparing a focused workplace for halal practices in halal food manufacturing companies did not show any significant effect on the impact of these practices on halal firms’ financial performance. It could be inferred that halal culture in providers’ halal logistics services and firms’ halal ingredients suppliers could have meaningful impact on the interaction between halal materials, halal storage and transportation and financial performance. The present study investigated halal culture among halal firms and found that halal culture moderates the process of halal production, which is greatly dependent on manufacturers’ staff.

**Implications**

The present study provides both managerial and theoretical contributions. The results indicated that the implementation of halal materials and storage and transportation activities have positive effects on financial performance. In addition, although staffing helps halal firms to ensure that halal principles are being followed, it has no effect on financial performance. The current findings strongly recommend that, if all the required materials are
halal and are of high quality on the basis of halal notions, and if the third-party logistics companies provide storage, infrastructure, transportation and hygienic and clean storage instruments, and if JAKIM requirements are appropriately met in terms of halal storage and halal transportation, the result will be desirable competitive advantage, which in turn, promotes financial performance. Because halal staffing was found to be one of the JAKIM inquiries and did not have any significant impact on financial performance, adequate training needs to be provided for dealing with halal food production and Islamic requirements in producing halal food. Further, these findings seem to be compelling, as investors typically regard the relationship between investing in the halal industry and profit as a zero-sum outcome. Investors are reluctant to meet halal requirements and apply for halal certification, as they believe that these requirements are not cost-effective, and they are uncertain about their financial gains. However, the result of this study indicates that practicing HOS improves companies’ financial performance. On that account, investors are recommended to look at this investment as a unique opportunity rather than a worthless expense. Furthermore, the production process is the only HOS that has a negative effect on financial performance. This means that integrating the halal concept into the production process may impose higher costs for halal food firms, including the costs for the cleanliness of production areas and for segregating halal and non-halal products. Testing the halal culture as the moderator reveals that the production process has no effect in firms that have halal-focused workplaces and in which halal practices are the norm among employees. This suggests that halal culture can offset the negative impact of the production process. As gaining halal certification demands a halal process of food production, managers of halal manufacturing firms need to give special attention to halal culture to nullify its adverse impact on financial performance. In addition, the negative impact of integrating the halal concept in the production process provides insight for decision makers on the importance of revising current requirements for halal certification.

In terms of theoretical contribution, to the best of our knowledge, this study is the first to investigate the effect of HOS strategies on the financial performance of halal firms. Research on the financial performance of halal firms is important, as this sector is a rapidly growing industry with a significant role in ensuring the integrity of halal foods at the point of consumption (Tieman, 2011). Our findings demonstrated that financial performance within halal food manufacturing firms was positively affected by halal materials, storage and transportation practices, but negatively affected by the production process. This research has also contributed to the literature by examining the moderating effects of the halal culture on the relationship between HOS and financial performance.

Limitations and future studies
Although the objective of this study was successfully accomplished, its limitations should be considered before generalizing the results. First, we tested the effects of HOS on the financial performance of halal firms; however, we did not consider other drivers, such as organizational resources and market demand. Future studies should, therefore, explore the effects of these drivers. Second, this study only used data from Malaysian firms. Future studies could obtain more interesting results by collecting and comparing data from and among different countries. Third, this study is cross-sectional in nature and tested all the hypotheses by performing a questionnaire survey. Therefore, the causality in the relationships among the used variables might be limited, and the survey results may have been affected by the fact that the dynamic changes in competitive advantage during the adoption of HOS were not considered in this study. Thus, a longitudinal study examining the relationships for an extended period must be conducted to provide more precise results.
References


**Further reading**


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