Influence of Knowledge Management on Performance of Halal SMEs in Singapore: Dynamic Capability as an Underpinning Theory

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ABSTRACT

The current business landscape, marked by intense rivalry stemming from globalization and constantly evolving technology, has highlighted knowledge management as a crucial strategy for halal companies to attain a competitive edge and sustain superior performance over time. Therefore, the objective of this study is to investigate the connection between knowledge management and the performance of small and medium-sized Halal businesses in the Republic of Singapore. Utilizing a cross-sectional research approach, the study examined 231 halal businesses that are active in the nation as a sample. With the help of the dynamic capability theory, the partial least squares structural equation modeling technique was used to empirically assess the relationship and effects of knowledge management on performance. The results showed that knowledge management had a significant and positive impact on the halal SMEs' performance. In the sphere of the halal sector, this conclusion is crucial for practitioners, policy makers, and scholars. Lastly, the study's limitations and recommendations for future research were discussed.

INTRODUCTION

The Muslim population is projected to reach 2.2 billion in 2050 or 26.4% of the world's population (Abd Hamid et al, 2020). Halal business has rapidly expanded globally and halal is not only a religious issue but has become part of business and trade (Yamaguchi, 2019). The global market is anticipated to reach USD10 trillion by 2030 (Mostafa, 2020). The growth of the halal industry in the world not only occurs in Muslim majority countries but also becomes a trend in non-Muslim countries. This is because even non-Muslim countries are aggressively developing the halal industry in the face of globalization, demographics, and bilateral relations with Muslim countries. Halal is now widely accepted in all aspects of daily life and is expanding quickly into non-food fields like personal care, lifestyle, fashion, pharmaceuticals, cosmetics, travel, tourism, trade, finance, entertainment, work, and education (Nurainun et al., 2023). Therefore, the development of the halal industry aims to reach the Muslim market in non-Muslim countries (Febriandika et al., 2023).

Halal is an Arabic word meaning legal, permitted or allowed by Islamic law. The opposite is haram, which means illegal or prohibited. The increasing awareness of Muslims all over the world to uphold their religious beliefs has created a demand for halal product and services that meet their religious requirements (Abd. Hamid et al., 2022). This is further fueled by a large, fast-growing and young Muslim population across Muslim-majority countries who are looking for products and services aligned with their Islamic way of life. As the Muslim population increases, this demand for halal products and services is expected to continue. By 2050 the global Muslim population will be approximately 2.76 billion, making up almost 30% of the world population ((Al-Hariri & Al-Mazeedi, 2020). This figure signifies the potential of a growing global market for halal products and services. In addition, awareness of halal products is expanding globally, especially in non-Muslim countries, creating huge new halal markets. Over time, the halal industry is developing rapidly and gaining confidence of non-Muslims due to food safety, hygiene and quality control. Halal products, services, and brands are also becoming more relevant to non-Muslims due to an increased awareness on issues like sustainability, ethical consumerism, green growth and they are seeking products that fulfill high ethical and quality standards which are similar to those of halal products (Gul et al., 2022; Majeed et al., 2019). Given everything, the qualities advanced by halal brands, such as social responsibility, management of the

environment, economic and social worth, animal government assistance, and good deed, have garnered interest beyond its demanding consistency (Elasrag, 2016; Syukur & Nimsai, 2018).

Singapore, despite being a non-Muslim majority country, is an ideal hub for Halal food production, trading and re-export as it is close to Muslim-majority Malaysia and Indonesia, with a highly developed logistics infrastructure for global trade and the quality of Singapore made products. The Islamic Religious Council of Singapore or MUIS was responsible for setting the Halal standard. Established in 1967, MUIS started its Halal certification services in 1972 when 'Yeo Yap Seng' a major food and beverages company sought to expand its business in the Middle East countries (Mohamad et al., 2016). In May 2005, MUIS developed and implemented its Halal certification guidelines, Singapore MUIS Halal Standards (SMHS), which consists of both religious and technical components. MUIS Halal certificate provides an assurance that the product has been prepared according to a prescribed set of standards. Since then, MUIS has issued thousands of Halal certificates, certified business premises, and Halal products and services of various companies and industries (Gul et al., 2022). MUIS plays a vital role in the burgeoning halal industry, and Singapore is now ranked 7th on the Global Islamic Economy indicator. With more than 50,000 Halal certified products, over 5000 Halal certified establishments, a strong regulatory Halal framework, and a reputable Halal Certificate system, Singapore is also the top Muslim friendly travel destination among non-Muslim nations'.

Due to a lack of a carefully skilled labour force, financial fragility, a lack of familiarity with government backing, and an absence of the proper innovative processes, halal-based small and medium enterprises (SMEs) in Singapore face substantial obstacles to their growth and sustainability (Leong, 2019). However, the halal industry also has to deal with problems like fake halal certificates, expired halal logos, improper placement of halal and non-halal food products, and problems with product transparency and quality information on the products that are hidden because they do not adhere to the halal standard. Hence, Singapore's halal business sector needs a sustainable model (Munshi, 2019). Halal small businesses currently confront additional obstacles as a result of the increased competition brought about by globalization, and as a result, similar to small and medium enterprises, these firms may also fail fast after a shorter period of existence.

Problem Statement

Organizational performance has emerged as a critical asset for all businesses, as seen by the speed at which the business environment's performance criteria are evolving. The ability of a company to manage its resources, including its knowledge base, has a positive impact on performance and the business climate. A business can increase its success and attain sustainability by managing its knowledge assets well. It is crucial to look into the connection between knowledge management and performance in halal small and medium-sized enterprises. Considering their economic impacts, halal SMEs, like other SMEs have a significant role in Singapore's economic development. The contribution of halal SMEs to Singaporean economic development can be enhanced by boosting their business performance with appropriate measures of knowledge management.

LITERATURE REVIEW

Knowledge Management

Knowledge is an essential resource that must be preserved for a business to maintain a sustainable competitive advantage (Nonaka et al., 2000). It is also the main factor that can affect an organization's ability to survive. Knowledge generation and sharing inside an organization may increase its value by enhancing its capacity to adjust to both unusual and common situations (Gharakhani & Mousakhani, 2012). There are several ways to define knowledge. Yang et al. (2009) posited that knowledge encompasses convictions, attitudes, viewpoints, purpose, and behavior. It is a belief that improves an entity's ability to act effectively. According to Wiig's (2007) definition, information is made up of facts and data arranged to explain a certain scenario or state, whereas knowledge is made up of truth, facts, and beliefs, perspectives, judgments and expectations, methodologies, and know-how. Meanwhile Nonaka et al., (2000) emphasized that knowledge is a broad concept that denotes something powerful with the idea that it can improve an organization's ability to operate effectively, and Morrisey (2006) defined knowledge as something that can be thought of as information that is combined with experience, context, interpretation, and reflection. Penrose (1959) countered that an employee's

knowledge is contingent upon their experiences, abilities, and capacity for learning. Though it is widely acknowledged that knowledge is power, its exact meaning is still up for debate (Xu & Bernard 2011).

Performance

The word "performance" is normally referred to business performance in the research study. Many dictionaries have defined performance as the assessment of an organization's operational quality and functions. Performance of a business concern is the actual output of the business measured against its output. Performance has been the most vital concern for every organization, be it profit or non-profit one. By assessing the degree of success in terms of costs, quality, and time, as well as consolidating in areas of higher input, it allows the organization to concentrate on units that require improvement (Ringim, 2012). Organizations are commonly created for the purpose of giving value for their products and services to the customers. These organizations usually compete with one another, to seek competitive advantage by doing better in performance (Pinho et al., 2014). Since performance is a measure of the firm's success and accomplishment of its goals, it is also a major concern. Additionally, it demonstrates the firm's efficacy, productivity, and efficient use of resources (Berry et al., 2006). Thus, in order to increase the firm's competitiveness and profitability, it is crucial for owners or managers to identify the elements that affect performance (Abu-Jarad et al., 2010).

Dynamic Capability Theory

Dynamic Capability Theory (DCT) looks at the firm's ability to redeploy and reorganize its resources in response to opportunities and threats. Researchers have agreed that the emergence of dynamic capabilities was a response to increased technological innovation and the failure of the RBV to address strategy in a dynamic manner (Teece et al., 1997; Eisenhardt & Martin, 2000; Ambrosini & Bowman, 2009; Di Stefano et al., 2010). According to Teece et al. (1997) a strategy of resources accumulation was in itself not enough to confer competitive advantage on the firm. Timely responses to external events, the ability to innovate and the ability to co-ordinate and deploy competencies were as important as the resource endowment of the firm. Eisenhardt and Martin (2000) defined dynamic capabilities as the antecedent organizational and strategic routines by which managers alter their resource base - acquire and shed resources, integrate them together, and recombine them - to generate new value-creating strategies. They also proposed that dynamic capabilities are specific organizational processes that create value by deploying and redeploying resources in a dynamic market to create and sustain competitive advantage. Eisenhardt (1989) identified three broad categories of dynamic capability; the capability to integrate resources, the capability to reconfigure resources, and the capability to gain and lose resources, while Zahra et al. (2006) saw dynamic capability as the ability to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision makers. Thus dynamic capabilities can be viewed as part of an organization's strategy process, through which information on strategy outcomes is disseminated and incorporated into the decision making process. Dynamic capabilities also provide an organization with the ability to redeploy resources in a dynamic fashion in response to internal or external issues.

Conceptual Framework

The conceptual framework presented in Figure 1 is grounded in research gaps that are bolstered by the dynamic capability theory. This theory explains the organization's ability to adapt to the uncertain and dynamic environment. Businesses and organizational settings are always changing, requiring better concepts and methods to adjust to new situations, respond quickly and creatively, and achieve organizational performance. To improve organizational effectiveness, organizations should aggressively cultivate their knowledge management capabilities. For business performance, organizations can respond to the unstable and changing business environments via knowledge management strategies. As a result, these companies may achieve the required organizational performance by fending against dangers from the inside as well as the outside and taking advantage of opportunities in fast-paced business settings.
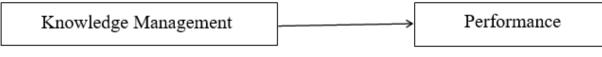

Figure 1. Conceptual Framework

METHODS

The study was quantitative and cross-sectional in nature, and the survey was carried out using a structured self-report questionnaire. Because it is convenient and effective at gathering information from a large number of participants, self-report questionnaires are frequently employed in research as a mode of assessment (Sekaran and Bougie, 2016). Participants were asked to indicate their level of agreement/disagreement based on five-point Likert-type scale, where 1 denotes strongly disagree, 2-disagree, 3-neutral, 4-agree, and 5 strongly agree.

A total of 714 questionnaires were distributed to the participants who were asked to complete the survey housed in Google Forms. There were 249 completed questionnaires in all, with a 34.87% response rate. However, only 231 questionnaires were found to be valid and usable after 18 cases that were identified as outliers were excluded. Non-response bias was examined by comparing the early and late responses using the T-test (Armstrong and Overton, 1977). Because there was no discernible difference between early and late participants, non-response bias was not present. The common method variance was also examined using Harman's single factor test (Podsakoff *et al.*, 2012). No component's variance was found to be more than 50% of the designated threshold value, and only 43.31% of the variation as a whole could be accounted for by a single factor. As a result, it was established that the data were free of bias or considerable common method variance.

RESULTS

Partial least squares (PLS) modelling was employed to analyse the data. This method divides the results into two sections and assesses both the measurement model and the structural model. Part of evaluating a measurement model is looking at the reliability and validity of the measures used to represent each construct. It is necessary to establish indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The composite reliability and Cronbach Alpha ratings, both of which are higher than the advised value of 0.70, provide as evidence of internal consistency (Hair *et al.*, 2019; Chin, 2010). As indicated in Table 1, all constructs have composite reliability (CR) values more than 0.7, confirming their reliability (Chin, 2010). After removing KM3, KM4, KM5 and P3 items, all remaining loadings were higher than 0.6, the threshold used to assess factor loadings for indicator reliability (Henseler *et al.*, 2015), and thus the model demonstrates appropriate indicator reliability. It is also recommended that the average variance extracted (AVE) be more than 0.5 in order to ensure convergent validity (Hair *et al.*, 2019; Chin, 2010). The AVE in this study was higher than the threshold, which supported convergent validity.

Table 1: Measurement Results on Loading, CR and AVE

Construct	Indicator	Loadings	Composite Reliability	Average Variance Extracted (AVE)
Knowledge Management	KM1	0.614	0.808	0.504
	KM2	0.714		
	KM6	0.813		
	KM7	0.826		
	KM8	0.610		
	KM9	0.804		
Performance	P1	0.915	0.923	0.775
	P2	0.916		
	P4	0.878		
	P5	0.809		

Cross-loadings and the Fornell-Larcker criterion are two frequently employed metrics to assess discriminant validity (Henseler *et al.*, 2015). Each construct's AVE should be greater than the squared correlations with all other constructs, according to the Fornell-Larcker criterion (Fornell-Larcker, 2014). Discriminant validity is demonstrated since each concept's AVE is larger than its correlations with other constructs and indicators loaded more heavily on the construct they are meant to assess (See Table 2 below).

Table 2: Measurement Model: Discriminant Validity (Fornell-Larcker)

	KM	P
Knowledge Management (KM)	**0.756**	
Performance (P)	0.407	**0.723**
Note: Values in **bold** represent square-root of AVE		

A path analysis was conducted to conceptualize the proposed relationship between knowledge management and performance constructs after operationalizing all of the constructs by calculating the measurement model's goodness of fit. The standard error, t-value, and beta coefficients of the path connection were all used in the study. The path analysis results of the structural model are shown in Table 3 below. Hypothesis 1 assessed if Knowledge Management (KM) significantly affects Performance (P). According to the findings, KM significantly affects P (β = 0.370, t = 3.724, p =0.000). H1 is therefore supported. The findings revealed that knowledge management has a significant influence on performance which is supported by the Dynamic Capability Theory.

Table 3: Structural Model Direct Assessment

Hypothesis	Relationship	Beta β	T value	P value	Result
H1	Knowledge Management → Performance	0.370	3.724	0.000***	Sig.

***P<0.01

DISCUSSION

It has been demonstrated that knowledge management in entrepreneurial firms enhances decision-making through the collection and organization of pertinent data, the provision of excellent knowledge-based decision-making support, and the selection of the optimal option for the firm's strategic direction, all of which contribute to an improvement in business performance. Knowledge management and corporate performance are substantially correlated, according to empirical data (Inkine, 2016). The study's findings showed a substantial correlation between knowledge management and the halal small and medium-sized businesses' ability to operate profitably. This is understandable considering that knowledge management essentially assists firms in organizing, planning, producing, and inspiring employees to use the firm's knowledge resources efficiently. A firm's ability to achieve the criteria for identifying its operational and strategic objectives depends on its ability to handle knowledge effectively. This entails the generation, exchange, contribution, and conversation of knowledge (Cabrilo & Leung, 2019). These days, knowledge is seen as an asset and a valuable resource. Without effectively managing this resource, it is difficult, if not impossible, to provide affordable, high-quality goods and services. It is imperative for halal small businesses to establish an organizational culture that fosters knowledge sharing among employees as they accomplish both personal and organizational goals. These businesses should place a special emphasis on their employees sharing knowledge acquired from both internal and external sources. These procedures can encourage employees to reach for a higher level of learning and conversation, learn about cutting-edge goods and services, and find knowledge from both internal and external sources, all of which are vital for the companies. Small businesses are particularly vulnerable to outside threats. However, because of their adaptability and flexibility, these businesses are able to make decisions more quickly and effectively, which can help them become more survival-oriented (Branicki et al.,

2018; Durst & Henschel, 2021). Knowledge management would also support the growth of these smaller businesses and their operations, enabling them to become more resilient and successful over time (Antunes & Pinheiro, 2020).

When it comes to boosting organizational performance, knowledge management has been and continues to be a crucial competitive differentiator. The greatest potential for knowledge creation comes from the combined power of people and machines. To stay abreast of the rapidly evolving field of technology and successfully tackle unanticipated obstacles, halal businesses must integrate technology infrastructure, processes, incentives, and culture that encourage knowledge management adoption. The future of the business depends on its capacity for efficient knowledge management. Thus, in order to improve the firm's performance in the halal market, knowledge management is deemed important.

Limitations and Future Research

There are several limitations on this study that should be noted. First, a single respondent at a firm provided the data via a self-administered survey technique, which could potentially bias the results. Future studies ought to concentrate on gathering data from several informants within the firm. Secondly, the performance of Halal SMEs could be impacted by a wider range of variables, and knowledge management is the only independent variable that is the subject of this study. Additional elements that could have contributed to or hampered the major predictors should be included. This will assist in better understanding the factors influencing the success of halal SMEs. Third, it is hard to generalize the findings to SMEs in Singapore because the study is restricted to halal businesses. In order to further explore cause and effect, future study should think about expanding the sample size to include SMEs across all sectors. Lastly, a cross-sectional design was chosen because of the time constraints and the nature of the data collection method. Since this design might not be optimal for an effective examination of the causality among the study's variables, the conclusions that were derived from the study may be limited. In order to compare any long-term alterations in the data and more accurately determine the causal directions, future research should consider about utilizing a longitudinal approach.

CONCLUSION

With the growth of the knowledge economy, knowledge management has become increasingly critical to a company's success. Knowledge is a crucial resource for a company's continued existence, stability, growth, and progress. Knowing serves as the cornerstone for the expansion of essential capability, which boosts business productivity and creates competitive advantages. This research adds to the body of literature by examining the significance of knowledge management with the support of dynamic capabilities in improving the performance of halal SMEs, even though a large body of literature has already been written about assessing SME performance and acknowledging the role of knowledge management to achieve appropriate results. The information gathered via a questionnaire given to a sample of Singaporean small and medium-sized halal businesses served as the basis for the findings. The association between the variables was positive, suggesting that knowledge management is a reliable indicator of performance for Singapore's halal SMEs. These results might motivate Singaporean halal SME owners to develop and put into practice a cogent knowledge management strategy and to consciously embrace a strategic and operational focus on the economic value embedded in the pertinent knowledge the company possesses. The secret to creating a long-lasting competitive advantage is to unleash pertinent knowledge in the business's operational procedures.

This study also add to the body of knowledge regarding the direct influence that DCT has on the link between knowledge management and performance of halal SMEs. The dynamic capability theory (DCT) focuses on the ability of a firm to develop, integrate, and reconfigure its internal and external competences in order to deal with rapidly changing environment. In order to produce and maintain superior performance, particularly in a turbulent environment, the firm strategically integrates, builds, and recombines resources and capabilities under DCT.

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