



Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication
of the Informing Science Institute
InformingScience.org

IJIKM.org

Volume 16, 2021

CHINA'S HALAL FOOD INDUSTRY: THE LINK BETWEEN KNOWLEDGE MANAGEMENT CAPACITY, SUPPLY CHAIN PRACTICES, AND COMPANY PERFORMANCE

Kamila Usmanova	School of Economics and Management, University of Science and Technology Beijing, Beijing, China	kami88@mail.ru
Daoping Wang	School of Economics and Management, University of Science and Technology Beijing, Beijing, China	dpwang@ustb.edu.cn
Eli Sumarliah*	School of Economics and Management, University of Science and Technology Beijing, Beijing, China	2761514566@qq.com
Kawthar Mousa	School of Economics and Management, University of Science and Technology Beijing, Beijing, China	mousakawthar@yahoo.com
Safiatou S. Maiga	School of Economics and Management, University of Science and Technology Beijing, Beijing, China	safiatoumaiga21@yahoo.com

* Corresponding author

ABSTRACT

Aim/Purpose	The study attempts to analyse the influences of knowledge management capacity on company performance and supply chain practices. It also examines whether supply chain practices significantly and positively impact company performance.
Background	Knowledge management capacity is an essential tactical resource that enables the integration and coordination among supply chain stakeholders, but research examining the link between knowledge management capacity and supply chain practices and their impacts on company performance remains scarce.

Accepting Editor Maureen Tanner | Received: April 2, 2021 | Revised: June 24, July 3, July 7, July 9, 2021 | Accepted: July 11, 2021.

Cite as: Usmanova, K., Wang, D., Sumarliah, E., Mousa, K., & Maiga, S. S. (2021). China's halal food industry: The link between knowledge management capacity, supply chain practices, and company performance. *Interdisciplinary Journal of Information, Knowledge, and Management*, 16, 285-306.

<https://doi.org/10.28945/4821>

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Methodology	The study uses correlation analysis and factor analysis to confirm the theoretical framework's validity and structural equation modelling to test hypotheses. The data are obtained from 115 halal food firms in China (with a response rate of 82.7%).
Contribution	This study's findings contribute to the Social Capital Theory by presenting the impacts of different supply chain practices on company performance. The findings also suggest the impact of intangible resources on enhancing company performance, contributing to the Resource-based View Theory. These results are a crucial contribution to both academicians and corporate managers working in the Halal food industry. Managers can apply these findings to discover and adopt knowledge management capacity with practical anticipation that these concepts will align with their company strategies. Also, the research motivates managers to concentrate their knowledge management on enhancing companies' supply chain practices to achieve improved company performance.
Findings	This study is an initial effort that provides empirical evidence regarding the relationships among supply chain, knowledge management, and company performance from the perspective of China's halal food industry. The results prove that knowledge management capacity is the supply chains' primary success determinant and influencer. Besides, knowledge management capacity positively influences company performance, and supply chain practices directly influence company performance.
Recommendations for Practitioners	Managers can apply these study findings to determine and increase knowledge management capacity with practical anticipation that these concepts will align with their company strategies. Also, the research motivates managers to concentrate their knowledge management on enhancing companies' supply chain practices to achieve improved company performance.
Recommendations for Researchers	The study presents a new theoretical framework and empirical evidence for surveying halal food businesses in China.
Impact on Society	These results are a significant contribution to the research field and industry focusing on halal foods.
Future Research	First, this research focuses only on halal food businesses in China; thus, it is essential to re-examine the hypothesized relations between the constructs in other Chinese business segments and regions. Next, the effect of variables and practices on the theorized framework should be taken into account and examined in other industries and nations.
Keywords	knowledge management capacity, company performance, supply chain practices, China, halal food industry

INTRODUCTION

Companies function in an international business setting typified by fast transformations, higher competition, changing customer needs, and technological advancements (Patnaik et al., 2013). Companies can endure such an unsettled atmosphere by promoting their ability to discover innovative technologies and methods and by continuously developing their operations and long-term achievements (Attia & Salama, 2018). According to Saad and Patel (2006), companies try to develop innovative business strategies such as supply chain (SC) management, business process reengineering, just-in-time strategy, and total quality management to enhance their competitive advantage and performance.

The resource-based view theory proposes that competition among companies is grounded in their capacities and resources. Yang et al (2009) define capacities as the capabilities to do projects or operations using resources such as tangible or intangible assets owned or attained by a company. Thus, companies with unique, non-substitutable, indispensable, and scarce resources will be capable of implementing value-generating approaches that rivals cannot imitate (Barney, 1991).

In the information age, knowledge signifies the vital asset to maintain companies' existence, steadiness, expansion, and development (Hassan & Al-Hakim, 2011). Also, Halley and Beaulieu (2005) see knowledge as the foundation for the growth of fundamental capacity that can increase company performance (CP) and generate competitive advantages. Furthermore, knowledge can improve innovation, productivity, decision making, information sharing, and teamwork among workers (Attia & Salama, 2018; Gharakhani & Mousakhani, 2012).

Knowledge management (KM) seeks to improve strategies that enable obtaining the appropriate knowledge in the appropriate format to the appropriate individual and at the appropriate time (Halawi et al., 2006). Besides, Kyobe (2010) proposes that KM will help companies stay competitive by sharing knowledge with the outside stakeholders and understanding their rivals' commodities, services, tactics, and best operations.

To survive in the international marketplaces, an organization should have a well-incorporated SC. Previously published articles emphasized SC management's importance in the company (Ibrahim & Ogunyemi, 2012). According to Attia and Essam Eldin (2018) and Attia and Salama (2018), SC management is a tool applied by companies to develop their CPs and to remain competitive, as competition is between SCs and not among separate companies.

The knowledge-based theory and resource-based view theory balance in describing the bases for competitive advantages via their indirect and direct impacts on performance, and the resource-based model has developed the knowledge-based model (Theriou & Chatzoglou, 2009). The resource-based framework depends on both intangible and tangible assets in increasing competitive advantage, while the knowledge-based framework proposes that companies can increase competitive advantage using intangible assets. The comparison of these two theories is presented in Appendix Table A1.

While the knowledge-based framework targets the effect of KM in developing competitive advantage primarily, the resource-based framework focuses on gauging the impact of combining various assets on developing competitive advantage. This study examines the effects of various resources (tangible and intangible) like KM capacity and SC practice on enhancing the CP; thus, the resource-based framework is a more appropriate theoretic foundation for this research than a knowledge-based framework (Xu et al., 2014).

Jain and Moreno (2015) consider KM as complimentary firms' abilities that play an essential role in firms' achievement. KM capacity is an essential tactical resource that enables the integration and coordination among SC stakeholders (Abdul Wahab & Sardabi, 2011; Rashed et al., 2010; Xu et al., 2014). Besides, to enhance their performance and maintain competitiveness, organizations must develop long-term relations with SC stakeholders downstream and upstream to win in the competitive atmosphere and enhance CP (Huo, 2012; Xu et al., 2014). Nevertheless, research examining the link between KM capacity and SC practices and their impacts on CP remains scarce (Attia & Essam Eldin, 2018; Attia & Salama, 2018).

This study has academic and practical significances. This study contributes to the current publications by connecting SC practice and KM capacity with CP. General literature examining the relationship between KM capacity and SC practice in a socio-technical context is also still scarce, particularly in emerging markets (Attia & Essam Eldin, 2018; Attia & Salama, 2018). Also, few publications have investigated the relationship between inter-organizational coordination, such as SC practice, and resource-based organizational capacity, such as knowledge management (Attia & Salama, 2018; Xu et al., 2014). In the halal food industry, publications examining halal SC in the context of KM are even

fewer (Mostafa, 2020). Mostafa (2020) found that in the past thirty years (1990-2019), only three notable halal food studies have linked halal SC and KM (i.e., Khan et al., 2018; Maman et al., 2018; Zulfakar et al., 2018), and none of these studies investigated SC practice–KM capacity–CP relationships. Therefore, this study argues that this research makes many contributions to the current literature by filling this gap. Besides, investigating KM capacity and SC practice in a causal framework will explain their effects on CP. In a practical context, the study provides valuable insight for decision-makers and practitioners in China's halal food industry to identify whether supply chain practice and knowledge management capacity have influential effects in enhancing the performance of their companies.

Because of the inadequate research in the developing markets concerning the KM capacity and how it influences the CP, along with the scarce literature in general concerning the links among KM capacity, SC practice and CP, this paper intends to respond to research questions (RQ) below:

- RQ1. Does KM capacity affect the SC practice in China's halal food industry?
- RQ2. Does KM capacity affect the performance of halal food companies in China?
- RQ3. Does SC practice affect the performance of halal food companies in China?

For responding to the above RQs, this study uses data gathered from China's halal food industry as it is regarded as a knowledge-intensive sector explained by its immense production value, high customized product demand, short life cycles of products, and a substantial amount of knowledge input (Wan Mohamed Radzi et al., 2013). The halal food industry is estimated to achieve a volume of \$USD 3.2 trillion by 2027 globally (Reportlinker, 2021). The international market for halal foods is projected at \$USD 1.7 trillion in 2020 and is forecast to grow at 9.6% by the evaluation period 2020-2027 (Reportlinker, 2021). As the world's second-biggest economy, China is estimated to achieve a halal business volume of \$USD 678 billion by the year 2027, with a rate of 13% during the estimation period 2020 to 2027 (Reportlinker, 2021). With an estimated 26 million Muslim population (Salaam Gateway, 2016), China will still be among the quickest growing in its national halal markets (Reportlinker, 2021). The Wuzhong Halal Industrial Park is built in China's Ningxia Hui autonomous region, where more than 50% of its citizens are Muslims (Salaam Gateway, 2016). China is seen as the global manufacturing hub; it is seeking to enhance its contribution to the halal food business (Salaam Gateway, 2016); thus, its government has improved exports with Muslim countries via its "One Belt One Road" program with numerous firms in Gansu province of China signing business contracts with Kazakhstan and Turkey to trade halal foods. The program is promoted by establishing a halal environment inside the nation, for example, building the Wuzhong Halal Industrial Park in the Ningxia Hui autonomous region (Salaam Gateway, 2016), which consists of 218 firms (China-Arab States Expo, 2020).

The remainders of this paper are organized as follows: literature review and hypotheses are presented in the next section, followed by the Research Framework and Research Method sections. The findings of the study are described in the fifth section and described in the sixth section. The next two sections provide a conclusion and deliver the limitations of this study and future research guidance.

LITERATURE REVIEW AND HYPOTHESES

KNOWLEDGE MANAGEMENT AND SUPPLY CHAIN IN HALAL FOOD INDUSTRY

Few existing literatures has examined the halal supply chain in the context of knowledge management, and even fewer in the halal food industry (Mostafa, 2020). Mostafa (2020) has conducted a comprehensive literature review and analysed the knowledge dimension in the halal food studies based on essential compilation papers authored by 633 scholars from 41 nations in the past thirty years (from 1990 to 2019) in the Web of Science database. He found only three notable halal food

studies linked to halal supply chain and knowledge management (i.e., Khan et al., 2018; Maman et al., 2018; Zulfakar et al., 2018).

Khan et al. (2018) presented the definitions of halal supply chain management (HSCM) available in the literature and found that HSCM involved a process-oriented method to control the information flow (as well as tangible and capital flows) through strategic collaboration and coordination of stakeholders, as to generate value to enhance SC performance in an approach that halal status is covered from farm to fork. Besides, Zulfakar et al. (2018) investigated the impact of institutional pressures on halal meat supply chain operations in Australia. The findings revealed that institutional forces positively influence the operations, particularly in the roles of stakeholders in guaranteeing the safety of halal integrity or halal status of the meat. Meanwhile, Maman et al. (2018) argued that the lack of knowledge about the halal principle could negatively affect HSCM; however, their research focused on identifying halal risks and formulated halal risk alleviation in all stages of the beef supply chain from Australia to Indonesia. However, these publications do not provide empirical evidence regarding the link between KM, SC, and CP. Also, unlike this study which focuses on a developing country, the last two mentioned works above involve a developed country, namely, Australia.

Moreover, few researchers have conducted studies in the halal fashion industry, examining the link between halal fashion SC and KM. To the best of the authors' knowledge, only five notable works by Sumarliah and her collaborators are relevant to this halal fashion SC-KM link (Sumarliah, 2021; Sumarliah, Khan, & Khan, 2021; Sumarliah, Li, & Wang, 2020; Sumarliah, Li, & Wang, 2021; Sumarliah, Li, Wang, Moosa, & Sackey, 2021). Through their combined efforts, these researchers investigated these issues:

- (1) Knowledge factors in the halal fashion supply chain but limited to a theoretical framework linking purchase intention and consumers' knowledge, but neither focusing on CP nor providing empirical evidence;
- (2) Effect of religious knowledge factor in the modest fashion industry, concentrating on consumers' perspectives, but not SC and CP;
- (3) Halal fashion supply chain management, focusing on the risk assessment and risk mitigation, but not on the assessment of SC practice-KM capacity-CP relationships; and finally
- (4) Effect of knowledge factors in the halal fashion supply chain, with a focus on consumers' perspectives, but not CP.

Therefore, this study makes many contributions to the current literature by filling this gap.

KNOWLEDGE MANAGEMENT CAPACITY AND SUPPLY CHAIN PRACTICES

Lately, scholars have exposed growing attention in discovering how KM capacity can affect the SC area. Some scholars considered knowledge an essential strategic resource to improve and develop SC (Attia & Essam Eldin, 2018; Attia & Salama, 2018; Bahar et al., 2020; Halley & Beaulieu, 2005; Rashed et al., 2010). SC incorporation linking downstream and upstream stakeholders involves tangible resources and intangible resources such as knowledge (Attia & Salama, 2018).

Furthermore, SC stakeholders should attain joint advantages via information sharing, frequent communication, fellowship, long-time commitment, mutual trust, and collaboration (Prajogo & Olhager, 2012; Rashed et al., 2010). SC knowledge signifies "the usage of knowledge sources attained from SC stakeholders for financial advantage" (Schoenherr et al., 2014).

Several scientists have discussed that applying, integrating, and sharing knowledge between SC stakeholders could substantially benefit companies, e.g., enhancing the quality and consumer service, cutting the budget and cycle period (Dalpati et al., 2010). Hence, handling knowledge among SC stakeholders will cause more operative and well-organized SC practices (Schoenherr et al., 2014) and higher competitive advantage, better performances, and long-run existence (Abdul Wahab & Sardabi, 2011).

Previously published studies on the KM influence in SC management proposed that KM enhances SC management in companies. This influence has been examined from many viewpoints. For instance, Bahar et al. (2020) found that KM capacity has a strong correlation and a positive effect on the logistic industry's SC practices. Attia and Salama (2018) studied the relationship between KM capacity and SC practices in Saudi food companies. They found that KM capacity positively affects SC practices. Attia and Essam Eldin (2018) studied the relations between KM capacity and SC practices in 165 firms in the Saudi food industry. Their findings revealed that SC practices are positively influenced by KM capacity. Y. Li and colleagues (2012) verified that collective KM processes (i.e., knowledge creation, storing, admission, broadcasting, and use) lead to better SC knowledge quality and SC integration in eight manufacture firms.

Dalpati et al. (2010) proved that KM activities (i.e., knowledge protection, knowledge application, knowledge conversion, and knowledge acquisition) significantly affect SC agility performance in 88 manufacturing firms in India. These scholars confirm that information sharing between SC stakeholders will improve SC processes and, therefore, enhance company performance. Similarly, Halley and Beaulieu (2005), who conducted a study in 163 producing companies in Canada, verify that operative KM activities (i.e., knowledge sharing, knowledge capturing, and knowledge acquisition) will allow the inside SC practices to integrate with outside consumers and supply partners.

Moreover, Schoenherr et al. (2014) investigated KM capacity in the SC (i.e., knowledge protection, knowledge usage, knowledge conversion, and knowledge acquisition) in 195 American SMEs (small and medium-sized enterprises). They confirmed that SC-KM capacity is a lively capacity, which might cause an effectual decision-making method and better SC performance.

Furthermore, some scholars have studied firm circumstances and structures in generating and sharing information among SC stakeholders. For instance, Youn and colleagues (2013) proposed that successful knowledge sharing, including accuracy and quality, among SC stakeholders would be attained via joint trust, firm compatibility, and top-management assistance.

As mentioned before, earlier studies have emphasized KM practices or firm capacity on different SC variables. For instance, scholars have investigated the link between KM and SC practices (Attia & Essam Eldin, 2018; Attia & Salama, 2018); SC presentation (Schoenherr et al., 2014); information quality and SC integration (Y. Li et al., 2012); SC integration (Prajogo & Olhager, 2012); SC technology (Collins et al., 2010); suppliers' operation (Rashed et al., 2010); electronic business implementation in the SC (Chong et al., 2014); and SC agility (Dalpati et al., 2010).

This study developed KM infrastructure capacity from four aspects, i.e., (i) Technical KM resource, (ii) Structural KM resource, (iii) Cultural KM resource, and (iv) Human KM resource. However, research examining the link between KM infrastructure capacity and SC practices remains scarce. The most pertinent research to this study is the work directed by Wong and Wong (2011). They proposed that KM capacity consists of four aspects, i.e., (1) technological capacity, (2) process capacity, (3) cultural capacity, and (4) structural capacity. They investigated the effects of both KM capacity and SC practices on company performance. They proposed that SC practices need KM capacity. However, they surveyed general manufacturing and industrial service companies in Malaysia, not the halal food industry. The subsequent similar studies are works conducted by Attia & Salama (2018) and Attia & Essam Eldin (2018). They investigated the effects of both KM capacity and SC practices on company performance in Saudi Arabia and found that KM capacity positively affects SC practices. However, their studies also did not focus on the halal food industry. Thus, this study needs to contribute to the existing literature by filling this research gap.

According to Gold and colleagues (2001), the KM capacity framework involves both KM infrastructure (i.e., culture, structure, and technology) and the KM process capacity. They suggested that process and technological capacities enable information sharing and developing long-time relations among SC stakeholders. Also, their findings revealed that those KM capacities directly affect company performance and indirectly impact company performance via SC practices. Thus:

H1: Knowledge management capacity will affect supply chain practices.

KNOWLEDGE MANAGEMENT CAPACITY AND COMPANY PERFORMANCE

Scholars have discussed that companies can develop a competitive advantage or improve their performance via the operative management of their unique and precious KM capacity and resource (Tseng & Lee, 2014). However, as mentioned earlier, previously published studies have classified KM into two general viewpoints: knowledge process/activity and knowledge infrastructure capacity. In addition, several research works have investigated the link between KM capacity and CP, but those works might be classified according to their meaning and viewpoint of the KM capacity variable.

Some research has considered KM infrastructure capacity and KM process/activity to examine KM and CP's link. For instance, Mills and Smith (2011) developed KM capacity instruments (i.e., knowledge processes and knowledge infrastructure capacity) employing data from Jamaican companies. Their findings revealed that several knowledge resources (including knowledge usage and firm structure) significantly affect CP. Nevertheless, those research works did not investigate the link between the KM process and KM infrastructure capacity.

Other scholars have examined the link between KM capacity and CP. For example, Gürlek and Çemberci (2020) investigated the links between KM capacity and CP in Turkish companies. The results reveal the fact that improved KM capacity is effective in increasing CP. Also, Bahar et al. (2020) found that KM capacity has a strong correlation and a positive effect on CP and organizational learning. Attia and Essam Eldin (2018) studied the relations between KM capacity and CP in 165 food companies in Saudi Arabia. They also found that CP is directly influenced by KM capacity.

Some studies have analysed the relation between KM activities and CP. For instance, Chen, Ellis, and Holsapple (2018) employed the data collected from active consultants and researchers who are dedicated to firm growth and assessed 9 KM activities (i.e., knowledge leadership, knowledge coordination, knowledge control, knowledge measurement, knowledge emission, knowledge assimilation, knowledge generation, knowledge selection, and knowledge acquisition). They found that KM activities are very significant for supplying and buying companies to obtain successful CP.

Based on Information-based Analysis, Sahibzada and colleagues (2020) studied the direct link between KM activities and CP in Chinese universities involving 536 administrative and academic workers. They revealed that the KM process significantly affects CP through the mediation role of knowledge worker productivity. Also, C. Li and colleagues (2020) surveyed 486 entrepreneurs and revealed that KM activities have a significant and positive influence on CP.

Andreeva and Kianto (2012) presented a model for KM activities, i.e., information communication technology (ICT) and human resources management (HRM). They directed empirical research employing data from 234 firms in China, Russia, and Finland. These scholars found that ICT and HRM significantly affected firms' competitiveness and economic performance. Also, the findings revealed that ICT significantly affects economic performance via HRM practice.

Moreover, scholars have investigated that the KM activities mediated the link between information infrastructure capacity and CP. Chang and Chuang (2011), for instance, proved that information infrastructure capacity (i.e., human resources, technologies, structure, and culture) positively affect CP via KM activities (i.e., knowledge sharing, storing, access, and selection) in 135 big Taiwanese companies.

KM capacity is taken into account by other scholars as a series of knowledge activities. These activities consist of, e.g., knowledge protection and transfer (Tseng & Lee, 2014), knowledge sharing, usage, and acquisition (Gharakhani & Mousakhani, 2012). Those scholars proved that KM capacity significantly and directly affects CP in SMEs.

Overall, several subjects reconsidered previously published research that analysed the link between KM capacity and CP. First, KM capacity in the studied literature is described from various viewpoints. Notably, scholars imply it as KM activity and KM infrastructure capacity (Mills & Smith, 2011); KM infrastructure capacity (Attia & Essam Eldin, 2018; Andreeva & Kianto, 2012; Bahar et al., 2020; Chang & Chuang, 2011; Gürlek & Çemberci, 2020); or KM activity (Chen et al., 2018; Gharakhani & Mousakhani, 2012; C. Li et al., 2020; Sahibzada et al., 2020; Tseng & Lee, 2014).

Next, previously published literature proved that not every knowledge resource affects CP. Furthermore, several KM resources indirectly influence CP via different KM capacities and processes. Therefore, a company must achieve and use the suitable KM capacity and process to support its targets and purposes (Gharakhani & Mousakhani, 2012). Further, there is a scarcity of literature that concentrates on developing nations like China to analyse the link between KM capacity and CP, signifying a necessity to study this relation in this kind of country.

Finally, there is scarcity in studies examining the influences of KM on CP in the halal food industry. Samsi and colleagues (2012) explored how KM can be a powerful device for a successful traceability system in the SC of the Malaysian halal food sector. These scholars proposed that the knowledge-based systems can improve the halal SC's traceability system, leading to successful CP. However, their works were limited to a conceptual paper, not an empirical study. Thus, there is a need to conduct empirical research to prove their concept.

H2: Knowledge management capacity will affect company performance.

SUPPLY CHAIN PRACTICES AND COMPANY PERFORMANCE

A successful SC management is achieved through the practical application of SC practices. SC practices signify a series of processes conducted in a firm to enhance the effectiveness in managing SCs (S. Li et al., 2006). Applying SC practices increases the effectiveness of the entire SC and individual organizations. SC management looks for close incorporation of functionality inside the firm and relationship with outside partners (i.e., consumers, suppliers, and other network members) to attain sustainable profit growth and develop highly competitive. It can be accomplished via valid structures of numerous SC practices (Wook Kim, 2006).

The relationship between SC practices and CP relies on every nation's condition and is affected by cultural disparities between nations (Chow et al., 2008) or "one size does not fit all." It is proved by the study conducted by Chow and colleagues (2008), who investigated the link between SC practices and CP in Taiwan and the USA. They found that SC practices did not directly affect CP in the USA but directly affected CP in Taiwan; also, that the most vital practices in Taiwan include customer service control, SC integration, and SC features.

However, studies emphasizing the impacts of SC practices on CP remain scarce, especially in the context of emerging nations (Saad & Patel, 2006). Most researchers conducted a limited number of empirical investigations regarding SC practices in organizations located in developed countries. For instance, S. Li and colleagues (2006) investigated SC practices, CP, and their linkages in 196 American manufacturers and concluded that successful SC practices would support competitive advantage and improve CP. Meanwhile, researchers who studied the link of SC practices to CP in developing marketplaces are still limited. For example, Sundram et al. (2011) surveyed 125 Malaysian electronics companies and found that effective SC practices improve CP. These scholars employed SC practices, e.g., reward and risk-sharing, joint goal and vision, knowledge quality, knowledge sharing, strategic customer relation, and strategic supply alliance; they found that every SC practice significantly affects SC performance, except strategic customer relations. Attia and Essam Eldin (2018) studied the relations between SC practices and CP in 165 firms in the Saudi food market; they found that CP is directly influenced by SC practices. Similarly, Atia and Salama (2018) researched 732 firms in the food business in Saudi Arabia and found that SC practices are direct influencers of CP. All these scholars employed SC practices measurement proposed by S. Li et al. (2006) in their studies.

Moreover, the relationship between SC practices and CP depends on its SC's firm position; thus, not every practice has the same impact and importance for all SC stakeholders. For instance, Cook and colleagues (2011) studied the SC role of an organization (including producer, service provider, retailer, or distributor) as moderating variable between SC practices (i.e., innovative planning, distribution system, SC structure, knowledge sharing, long-run relations, and digital technology) and CP. They proved that all SC practices significantly and directly affect CP; knowledge sharing and distribution systems have the most substantial CP effects. Other scholars, i.e., Chong and colleagues (2011), inspected the relation between SC practices (including in-house operation, training, IT, information sharing, consumer relation, and strategic supply alliance) and CP in Malaysian manufacturers and service companies. They found that SC practices directly and significantly affect CP in both types of companies. Academicians such as Bayraktar and colleagues (2009) discovered twelve SC practices associated with SMEs in 203 Turkish manufacturers; they found that SC practices (i.e., devoted holding safety stock, many supply partners, few supply partners, SC benchmarking, strategic planning, third-party logistics, subcontracting, outsourcing, e-procuring, just-in-time supply, and relationship consumer) positively and significantly affect SME's work performance.

Overall, from previous studies of SC practices, this study considered the research gaps as follows:

- The research findings of SC practices are subject to the research context; that is, SC practices can vary according to the position of the company in the SC, SC length, company size, and the industry (Ibrahim & Ogunyemi, 2012).
- The research focusing on the impact of SC practices on FB CP in developing countries is still limited (Attia & Salama, 2018).
- Moreover, the model of SC management is multifaceted and encompasses a system of firms in the stages of resourcing, producing, and providing the end products; thus, its whole area cannot be included in just a small number of studies, and the issued measurement elements do not mean they are appropriate through cultures and national boundaries (Gorane & Kant, 2017). Consequently, more studies are required in this field.

H3: Supply chain practices will affect company performance.

RESEARCH FRAMEWORK

Based on the above literature review and hypotheses development, this study developed three hypotheses, i.e., hypothesis one (H1), hypothesis two (H2), and hypothesis three (H3). H1 assumes that knowledge management capacity will affect supply chain practices; H2 proposes that knowledge management capacity will affect company performance. Finally, H3 suggests that supply chain practices will affect company performance.

The suggested framework of this study represents the relationships among constructs described by the mentioned hypotheses. It is shown in Figure 1.

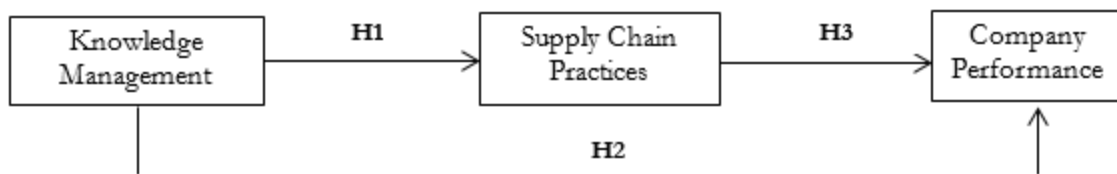


Figure 1. The framework of the study

RESEARCH METHOD

This study's framework and hypotheses were examined in the halal food industry in China. There are more than 200 halal food firms in the Wuzhong Halal Industrial Park, one of China's biggest halal food hubs, and these are divided into the halal meat product industry, halal snack food industry, and

halal dairy product industry (China-Arab States Expo, 2020). Senior managers from these companies are reckoned as suitable participants for this research as they can use and access their companies' information and explain the structural aspects of their companies and information about the knowledge-orientated process. For enhancing the precision of collected data from participants, this study followed the advice from Huber and Power (1985); prospective managerial participants were selected, and the instrument was pre-examined among these participants to guarantee that they comprehended the questions and delivered updated replies. Of these 200 companies, this study collected data from 136 firms. This study employed the sample size based on the table proposed by Krejcie and Morgan (1970); thus, it was decided that this research's sample should be 136. Hence, the authors focused on gathering information from these firms and effectively obtained valuable data from 115 firms, signifying a response rate of 82.7%.

An online questionnaire was organized to evaluate the study framework and hypotheses. The questionnaire was spread to 136 halal food firms in the Wuzhong Halal Industrial Park using Wechat, the most used social media in China for data collection. The questionnaire consists of three variables/constructs, i.e., KM capacity, SC practices, and CP. For all the variables, the authors set several measurement items based on reviewed literature. The variables and measurement items employed in the questionnaire and underpinning literature are presented in Table 1. Table 1 shows that there are 20 measurement items for variable KM capacity (i.e., KM01-KM20), 14 measurement items gauging the SC practices variable (i.e., SC01-SC14), and seven items measuring CP variable (i.e., CP01-CP07). KM variable consists of four categories that contain twenty measurement items: (i) Technical KM resource (6 items: KM01-KM06), (ii) Structural KM resource (5 items: KM07-KM11), (iii) Cultural KM resource (5 items: KM12-KM16), and (iv) Human KM resource (4 items: KM17-KM20). The study participants, which consist of halal food firms' managers in Wuzhong Halal Industrial Park, were requested to examine their existing operations. The participants were asked to measure every measurement item presented in the survey questionnaire using a 5-point Likert scale where five indicates "strongly agree" and one means "strongly disagree".

Table 1. Constructs and items measured in the survey questionnaire

CON-STRUC-T	DI-MEN-SION	CODE	MEASUREMENT ITEMS	SOURCE
Know-ledge man-age-ment capac-ity	Tech-nical	KM01	There are clear rules in this company to format or categorize its product knowledge	Attia and Salama (2018), Gold et al. (2001)
		KM02	There are clear rules in this company to format or categorize process knowledge	
		KM03	Technology is used by company stakeholders to collaborate with other individuals in the company	
		KM04	Technology is used by company stakeholders to seek new information	
		KM05	Company stakeholders use technology to regain information about their goods and processes	
		KM06	Company stakeholders use technology to retain information about their customers and competition	
		KM07	This company structure enables new knowledge discovery	

CON-STRUC-T	DI-MEN-SION	CODE	MEASUREMENT ITEMS	SOURCE	
	Structural	KM08	This company structure enables new knowledge creation		
		KM09	This company implements a reward system to share knowledge		
		KM10	This company enables information exchange throughout working boundaries		
		KM11	Company workers are eagerly accessible		
	Cultural	KM12	This company's stakeholders comprehend the significance of knowledge		
		KM13	This company's stakeholders are appreciated for their skills		
		KM14	The information-sharing advantages compensate the costs		
		KM15	This company's stakeholders are inspired to cooperate with other parties		
		KM16	This company's stakeholders are motivated to experiment and explore		
	Human	KM17	This company's stakeholders comprehend both their and others' duties		
		KM18	This company's stakeholders can recommend others' duties		
		KM19	This company's stakeholders can converse well with both their department colleagues and other department colleagues		
		KM20	This company's stakeholders are experts in their duties		
	Supply chain practices	SC01	We put quality as the priority in choosing supply partners		S. Li et al. (2006)
		SC02	We consistently solve issues together with supply partners		
		SC03	We help supply partners to increase the quality of their goods		
		SC04	We consistently hold programs that involve supply partners		
		SC05	We involve main supply partners in goal-setting and planning		
		SC06	We vigorously include our main supply partners in new product development		
		SC07	We often interrelate with consumers to establish responsiveness, trustworthiness, and other values for this company		
SC08		We often gauge and assess consumers' satisfaction			
SC09		We often resolve future consumers' demands.			
SC10		We enable consumers to search for company's help			
SC11		We regularly assess the significance of relations with consumers			

CON-STRUC-T	DI-MEN-SION	CODE	MEASUREMENT ITEMS	SOURCE
		SC12	We update trading partners about changing demands in advance	
		SC13	Trading associates share essential knowledge with this firm	
		SC14	Trading associates maintain complete information about things that influence our selling	
Com-pany per-formance		CP01	General competitive position	Attia and Salama, (2018)
		CP02	Market-share growth	
		CP03	Market share	
		CP04	Return on investment	
		CP05	Return-on-investment growth	
		CP06	Sales growth	
		CP07	The profit margin on sales	

Data analysis in this study uses AMOS 24.0 software. For measurement model and structural equation model. AMOS 24.0 is employed to examine the hypothesized framework to reinforce empirical study and hypothesis development (Kamble et al., 2021).

FINDINGS

MEASUREMENT MODEL

The ANOVA examination shows no significant variances in the mean scores of the chosen variables on the survey submission timeline signifying the nonexistence of nonresponse bias. This study uses Harmon’s sole factor to examine the common method bias; it reveals that the highest amount of variance described by a sole factor is 41.88%, which signifies that the standard method bias is not a vital problem in the paper.

The validity and reliability of the measurement items are examined using AVE (Average Variance Extracted) and CSR (Composite Scale Reliability). Table 2 displays that AVE values of all variables ranged from .5723 to .9586, which are above the constraint of 0.5 (Hair et al., 2014). The CSR values are also higher than the limit of 0.70 (ranged from .7980 to .9972), developing the measurement items’ satisfactory internal consistency (Gefen et al., 2000). Table 2 also compares the correlation constants among variables with the matrix’s diagonal components (typed in italic), signifying the variables’ AVE values’ square roots. The matrix shows that correlation constants of one variable with the other variable are smaller than the values of the AVE’s squared roots, denoting no discriminant validity problems in the variables (Hair et al., 2014). The measurement items’ factor loading values are above the cut-off point of 0.50 (Hair et al., 2014). The confirmatory factor analysis of the measurement framework proposes an acceptable fit with the values of model fit indicators of TLI=.9443, CFI=.9514, RMSEA=.0620, and $df/\chi^2=1.7067$ (Hu & Bentler, 1999). Subsequently, the research framework is examined to estimate the relationships/paths in the hypotheses developed. The findings of the SEM examination are presented in Table 3.

Table 2. Reliability and correlation results

VARIABLE	DIMENSION	RELIABILITY RESULTS		CORRELATION RESULTS					
		CSR	AVE	1	2	3	4	SC	CP
KM	1. Technical	.9972	.9443	<i>.9799</i>					
	2. Structural	.9870	.9098	-.7929	<i>.9616</i>				
	3. Cultural	.7980	.5723	-.0132	-.1118	<i>.7634</i>			
	4. Human	.9962	.9586	-.5886	.4168	-.0224	<i>.9710</i>		
SC		.9311	.7441	.7187	.7319	-.0590	.9748	<i>.8691</i>	
CP		.9189	.7715	.5194	.9474	-.1027	.7553	.8417	<i>.8854</i>

Note: The values in italic are the AVE scores' square root.

STRUCTURAL EQUATION MODEL (SEM)

As presented in Figure 1, the suggested research framework was examined employing the maximum probability estimation technique in AMOS 24.0 software. The results of the verified SEM and the hypothesis findings are presented in Table 3. Based on this research's formerly mentioned findings and the framework standardized coefficient, this research's hypotheses (i.e., H1, H2, and H3) are supported. Figure 2 presents all the hypotheses with their standardized coefficient (β). It shows that the link between SC practice and KM capacity, representing H1, has statistical significances (β=.1199, .1616, .1464, .8406 with p<.01). KM dimension with the most potent effect on SC practice is human KM resource (β=.8406). The relation between KM capacity and CP representing H2 also has a statistical significance (β=.2948, .3649 with p<.01, and β=.1138, .2053 with p<.05). KM dimension with the most substantial effect on CP practice is cultural KM resource (β=.3649). The link between SC strategy and CP representing H3 has a statistical significance (β=.3171 with p<.01).

To better examine the research framework, the coefficient of determination (R²) is applied to resolve a study framework's predictive accuracy (Hair et al., 2014). As a result, the study framework shows close to a significant level of predictive accuracy on company performance (R² =.4096), which is significantly described by SC practice (see Table 3).

Table 3. Results of SEM

HYPOTHESIS	PATH	STANDARDIZED ESTIMATE (β)	R ²	P-VALUE	RESULT
H1	KM→SC				
	Technical KM →SC	.1199		***	Support
	Structural KM →SC	.1616		***	Support
	Cultural KM→SC	.1464		***	Support
	Human KM→SC	.8406		***	Support
H2	KM→CP				
	Technical KM →CP	.1138		.0376	Support
	Structural KM →CP	.2948		***	Support
	Cultural KM→CP	.3649		***	Support
	Human KM→CP	.2053		.0010	Support
H3	SC→CP	.3171	.4096	***	Support

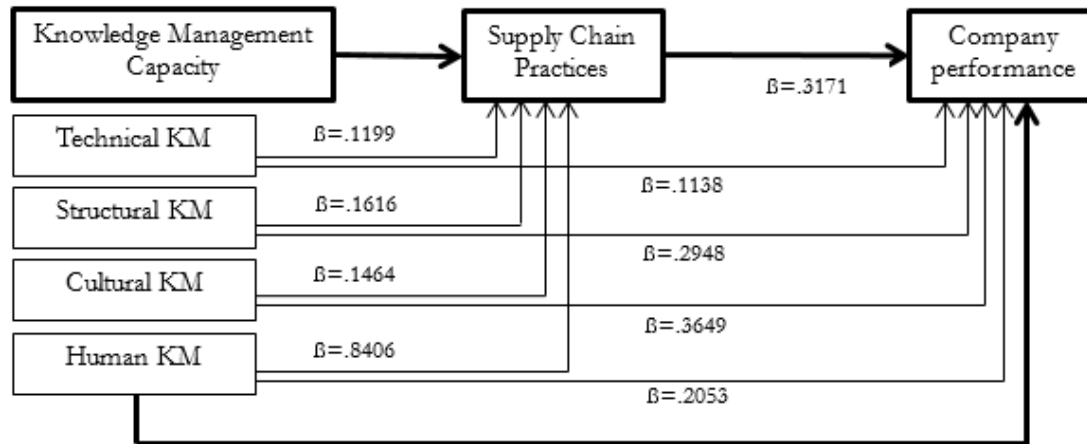


Figure 2. The revised study framework with standardized coefficient (β)

DISCUSSION

The study’s findings show that KM capacity has a significant role in enhancing SC practices. Therefore, the first hypothesis (H1) is verified. Furthermore, the discovery is in line with previously published works (e.g., Attia & Salama, 2018; Youn et al., 2013).

KM capacity is found to be the supply chains’ primary success determinant and influencer (Rashed et al., 2010). Furthermore, Attia and Salama (2018) prove that KM capacity (i.e., processes and technologies) will affect SC practices. These scholars revealed that KM capacity facilitates knowledge sharing between the workers and among companies. Also, it enables long-time relations between SC stakeholders, cooperation, and knowledge sharing, which can create value-added goods for the consumers.

Dalpati and colleagues (2010) also suggested that SC stakeholders’ information distribution can accelerate the SC’s information flow, enhance the SC’s effectiveness and efficiency, and facilitate the firms’ responsiveness to consumers’ changing demands. Besides, successful knowledge sharing between SC stakeholders needs firm compatibility, top-management support, and mutual trust (Youn et al., 2013).

The second hypothesis (H2) examines the impact of KM capacity on CP. This study finds that H2 is supported. The findings align with previously published studies, which prove that KM capacity directly affects CP (Andreeva & Kianto, 2012; Chang & Chuang, 2011; Mills & Smith, 2011).

Scholars prove that KM capacity is the most vital company resource that will facilitate firm innovation, business opportunity, active business situations, external and internal resources management, and new product and service development. Therefore, companies should attain the proper knowledge and organize external and internal knowledge to increase CP (Tseng & Lee, 2014).

The third hypothesis (H3) proposes SC practices as influential determinants of CP. This study’s findings recommend the support for H3. The finding is in line with previously published works that report that SC practices directly and significantly affect CP (e.g., Attia & Salama, 2018; Chong et al., 2011; Cook et al., 2011; S. Li et al., 2006; Sundram et al., 2011).

CONCLUSION AND CONTRIBUTIONS

The study attempts to analyse the influences of knowledge management capacity on company performance and supply chain practices. It also examines whether supply chain practices significantly and positively impact company performance. This study is an initial effort that provides empirical evidence regarding the relationships among supply chain, knowledge management, and company performance from the perspective of China’s halal food industry. The results prove that knowledge management capacity is the supply chains’ primary success determinant and influencer. Besides,

knowledge management capacity positively influences company performance. Supply chain practices directly influence company performance.

This study applies the resource-based view theory (RBVT) proposed by Wernerfelt (1984) based on strategic management research. The RBVT's basic idea is "why do several companies continually surpass or more successful than others?" (Barney & Clark, 2007). The company's RBVT signifies the "theoretic viewpoint that tries to define, clarify, and forecast how companies can obtain a maintainable competitive advantage via resources management and acquisition" (Rungtusanatham et al., 2003). RBVT proposes that a company is a set of exclusive tangible and intangible resources that require valid configuration to produce its capacity (Bitar & Hafsi, 2007). The RBVT focuses on linking companies' core assets to their performances (Yazdanparast et al., 2010). Organizations must build and employ their unique resources to produce exclusive goods and services to avoid replicating business rivals (Hsu et al., 2014). Based on the RBVT, the quality and kind of capacity and resource are crucial for profit-making (Yazdanparast et al., 2010). Nevertheless, a company's task is to obtain a diversity of capacity and resources and unite personal expertise, societal skills, gathered knowledge, and firm process to provide satisfactory product and service (Kogut & Zander, 1992). Previously published works in RBVT propose that resources are not similarly crucial in influencing CP and success. The RBVT views tangible resources as non-strategic assets because they can be attained or duplicated by business rivals (Rungtusanatham et al., 2003). Also, previous studies' results conclude that intangible resources are vital success factors for organizations as they are rare, specified, and not easy to duplicate or exchange (Abu Bakar & Ahmad, 2010).

This study's findings contribute to the RBVT, particularly the impact of intangible resources on enhancing CP. The other theory associated with the study is proposed by Ketchen and Hult (2007), i.e., the social-capital theory (SCT), which emphasizes the "gentler part" in the firm operations. The SCT considers a precious resource, which involves societal relations and collaboration among firms (Carey & Lawson, 2011). Societal asset signifies the "knowledge and firm assets that improve the capacity for a personal and collaborative act in human societal performance" (McElroy et al., 2006). The SCT suggests that the organizations engaging in jointly advantageous relations with consumers and supply partners can respond to market changes. It will facilitate them to improve demand predictions and distributions, lessen their supply partner base, and consequently attain excellent performance (Hsu et al., 2014). The SCT emphasizes the individual relations and communication among workers and other companies' stakeholders (Abdul Wahab & Sardabi, 2011). It focuses on verifying and explaining the interactive process that motivates the relation between SC stakeholders (Hsu et al., 2014).

This study's findings contribute to the SCT by presenting the impacts of different SC practices on CP. These results are a crucial contribution to both academicians and corporate managers. According to empirical proof, managers can apply these findings to discover and adopt KM capacity with practical anticipation that these concepts will align with their company strategies. Also, the research motivates managers to concentrate their KM on enhancing companies' SC practices to achieve improved CP. KM specialists need to comprehend the general relation between these ideas and the values that they may create regarding building and upholding companies' long-term competitive advantages. SMEs must think about how KM can be adopted effectively. It will involve programs and strategies to implement KM and encourage information sharing and learning among workers. A KM's vital aspect is to improve the firm's learning capacity.

LIMITATIONS AND FUTURE STUDY

Like other studies, this research also has limitations that provide prospects for subsequent investigations. First, this research focuses only on halal food businesses in China; thus, it is essential to re-examine the hypothesized relations between the constructs in other Chinese business segments and regions. Next, the effect of variables and practices on the theorized framework should be taken into account and examined in other industries and nations. Further, it is crucial to gather data from more participants in the Chinese halal-food business (this research gathered information only from 115

participants from an overall 139 firms in this market) to produce more demonstrative findings (Jasti & Kodali, 2014). Last, there is a need to use this research method by gathering data from many supply chain stakeholders instead of only the leading companies.

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APPENDIX

Table A1. Resource-based Theory vs. Knowledge-based Theory

THEORY	AIM	REASON FOR COMPANIES' PRESENCE	SCOPE AND SCALE	REASON FOR COMPANIES' CONTINUANCE
Knowledge-based	Describe knowledge transfer, sharing, and creation inside a company	This theory does not describe why companies survive for moral hazards and opportunism.	What the companies make and what they buy	Joint capacities in creating embedded knowledge which is highly complex and hard to collect.
Resource-based	Examine companies from the resources/ assets aspect instead of the products aspect	The development of new industrious services needs a group of assets that give rise to a company.	The inseparability of the resource packages that should be gathered to fulfil related demands for varied industrious services	The scarcity and non-substitutability of the resources, specific past situations, societal complexity and causal ambiguity are incorrectly imitable.
Source: Mitchell and Cohen (2006)				

DATA AVAILABILITY STATEMENT

The datasets analysed during this research are available from the corresponding author on reasonable request.

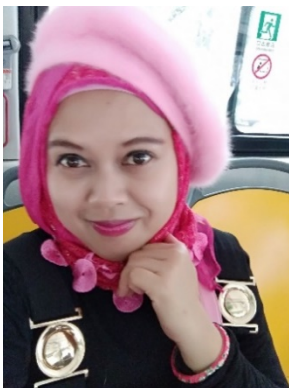
AUTHORS



Kamila Usmanova is a doctoral researcher at the School of Economics and Management, University of Science and Technology Beijing, Beijing, P.R. China. She has published the conference article in the 3rd International Conference on Management Engineering, Software Engineering and Service Sciences (Wuhan, P.R. China) and the journal article in Chinese Management Studies Journal. Her research interests: Knowledge Management, Human Resource Management, Organizational Behaviour, Creativity, Innovations, Brand Promotion, and Cross-cultural Communications.



Daoping Wang is a professor at the Department of Management Science and Engineering, School of Economics and Management, University of Science and Technology Beijing, Beijing, P.R. China. In recent years, he has published 5 academic monographs and edited 6 textbooks; he has published more than 10 papers at international conferences, and more than 20 papers in Chinese and international academic journals. His teaching and research areas include Supply Chain Management, Logistics Management, Information Management, Data Mining and Data Warehouse, Electronic Business, etc.



Eli Sumarliah, a.k.a. Elie Molly is a Ph.D. candidate at the School of Economics and Management, University of Science and Technology Beijing, Beijing, P.R. China. She has published numerous research articles in reputable international journals, including the International Journal of Information Systems and Supply Chain Management, Information Resources Management Journal, Journal of Islamic Marketing, Research Journal of Textile and Apparel, International Journal of Islamic Business Ethics, etc. Her interest areas include Supply Chain Management, Information Management, E-commerce, and Consumer Behaviour.



Kawthar Mousa is a Ph.D. candidate at the School of Economics and Management, University of Science and Technology Beijing, Beijing, P.R. China. Her research areas include Project Management, Knowledge Management, and Consumer Behaviour.



Safiatou S. Maiga is a Master's degree candidate at the School of Economics and Management, University of Science and Technology Beijing, Beijing, P.R. China. Her research areas include Project Management, Knowledge Management, and Cross-cultural Communications.