LEVERAGING KNOWLEDGE SHARING AND INNOVATION CULTURE INTO SMEs SUSTAINABLE COMPETITIVE ADVANTAGE

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Abstract

Purpose – This study aims to examine and explain the role of knowledge sharing in shaping innovation culture to improve business performance and build sustainable competitive advantage. These types of empirical research were mostly performed in large companies, with limited topic in SME sector. Therefore, there is need to re-examine whether the theories developed to understand large companies, are also applicable to SMEs.

Design/methodology/approach – This quantitative study involved 259 respondents from 59 sampling frame, consisting of three levels of export SMEs management in Bali Province, Indonesia. Data were collected through questionnaires using a semantic differential scale, and analyzed by SmartPLS software.

Findings – The results showed that knowledge sharing significantly influenced innovation culture, business performance, and sustainable competitive advantage. Theoretically, this research provided an insight of knowledge based on innovation culture, wIth business performance as a mediator variable.

Research limitations – The cross-sectional design used limited this study from drawing definitive generalizations, while the self-reported measurement increased the chance of bias.

Practical implications – The findings obtained is capable of motivating managers and practitioners to place emphasis on knowledge sharing and innovation culture in the SME sector.

Originality/value – The role of knowledge sharing was focused on large companies in several countries. However, the research examining the role of knowledge sharing in building an innovation culture is still rare in the SME, particularly in Indonesian sector. Therefore, study on this topic is needed because this country has not only a different culture, and also with various business practices.

Keywords knowledge sharing, innovation culture, business performance, sustainable competitive advantage, SMEs

Paper type Research paper

1. Introduction

Small Medium Enterprises (SMEs) is a sector that needs significant attention in the industrial revolution 4.0 era. It has a sustainable competitive advantage in increasing growth opportunities and optimizing profits, therefore, contributing to the country's GDP (Anwar *et al.*, 2018). Previous studies indicated that the inability of SMEs to manage resources has increased the failure of this enterprise, both in developed and developing countries. This phenomenon is not only the primary concern of managers and public policymakers, and it also includes academics (Singh and Verma, 2019).

The sustainable competitive advantage plays a crucial role in the long-term resilience and success of SMEs (Anwar et al., 2018). Organizations also continue to focus on identifying different product strategies, building core competencies related to service delivery, employing skilled personnel, and accumulating intellectual property (Eidizadeh *et al.*, 2017). According to Gutierrez-Martinez and Duhamel (2019), the sustainable competitive advantage determined by the four transversal dimensions, include leadership orientation, organizational culture, team-based structure, human resources, and control management systems. Other researches identified that sustainable competitive advantage were influenced by learning organization (Mahmoud *et al.*, 2016), human resource capabilities (Khandekar and Sharma, 2005; Petrova *et al.*, 2020), intellectual capital and innovation (Chahal and Bakshi, 2015), creativity and effective solution (Bari *et al*., 2019), entrepreneurial competency (Zainol and Al Mamun, 2018), innovation culture (Wolf *et al.*, 2011), and knowledge management (Bashir and Farooq, 2019). Therefore, the synergy between knowledge management and innovation business model shaped the sustainable competitive advantage (Malhotra, 2001).

One of the management dimensions required in creating a competitive advantage is knowledge sharing (Magnier-Watanabe and Senoo, 2009). This is the primary key of organizational learning, innovation (Ahmad, 2018), and functions as a crucial driver in creating values for business excellence and performance (Aboramadan, 2019; Exposito and Sanchis-llopis, 2018), especially for SMEs (Jordao *et al*., 2019). Most these empirical researches were conducted in large companies, wIth limited topic in SME sector. Also, it has restricted resources, such as labour, finance, small number of customers and market (Saunila, 2016). In the innovation context, the studies also focused on large firms, while the patterns in small enterprise had widely been neglected (Singh *et al.*, 2017). Therefore, there is a need to re-examine whether the theories developed for understanding large companies were also applicable to SMEs. Therefore, the competitive advantage in the SMEs needs to be investigated(Sergeeva and Andreeva, 2016).

The issue of competitive advantage of a business entity was examined around the world. Although it has been investigated using various variables representing the concept of competitive advantage, which was not explained comprehensively. This study attempts to address the following four gaps and offer a substantial share to the theory of sustainable competitive advantage literature. First, besides many contributions of similar research, there is a significant gap, i.e., no research adopted a single conceptual framework to achieve sustainable competitive advantage in business organizations (Gutierrez-Martinez and Duhamel, 2019). Other studies found that the innovation culture, mostly in SMEs was too fragmented, and needs consolidating (Bashir and Farooq, 2019; Wolf *et al.*, 2011). This research is the first to build a comprehensive framework.

Second, the research on innovation culture in SMEs is still limited, however, it needs to improve in performance and have a sustainable competitive advantage (Ahmad and Alaskari, 2014; Dabic *et al*., 2019; Kafetzopoulos *et al*., 2019). The aim of innovation

culture in the SME context is to develop and understand the intentions, build supporting infrastructure, promote behaviour to influence market and value orientation, and understanding the environment to implement innovation (Hanifah et al., 2019b). Several theories and empirical studies of innovation culture were focused on large companies or organizations, such as those conducted in Greece (Chatzoglou and Chatzoudes, 2018; Kafetzopoulos *et al.*, 2019); Spain (Exposito and Sanchis-Ilopis, 2018); Brazil-Portugal (Teixeira *et al*., 2019), and Malaysia (Hanifah et al., 2019). The findings showed that in countries where SMEs are actively implementing innovation culture, their business performance has improved. Although the results of these empirical studies have been successfully applied elsewhere, it has not been proven in Indonesia. Further investigation is needed in this country, because it has not only a different culture, however, with various business practices. This survey is the first to examine the innovation culture of the SME sector in Indonesia.

Third, sustainable competitive advantage is crucial for the success and long-term survival of SMEs (Anwar *et al.*, 2018). Therefore, organizations that have a high level of innovation culture had succeeded in developing and maintaining competitive advantage (Chatzoglou and Chatzoudes, 2018; Soetjipto *et al.*, 2018). However, the relationship between the innovation culture and competitive advantage has not been rigorously examined. Fourth, the sustainable competitive advantage associated with innovation knowledge and culture is still rare, therefore, it is worth researching in developing countries (Sajjad *et al.*, 2018; Singh and Verma, 2019). The issue of sustainability is related to various realities in developing countries (Orazalin *et al.*, 2019). Meanwhile, each company has significant opportunities to differentiate personal sustainability. This means that competitive advantage shows a higher self-image than competitors (Gutierrez-Martinez and Duhamel, 2019).

This study aims to explore the role of knowledge sharing in building innovation culture to improve business performance and sustainable competitive advantage (Amoako, 2019), particularly in the SME sector in Indonesia. In the SME context, innovation culture is still considered not crucial, as no benefits have been shown through empirical validation (Abdul-Halim *et al.*, 2018). Besides, most studies on innovation culture have been focusing on employees and large companies. Only a few analysis has examined how small companies become essential players in the global market (Chang *et al*., 2017). Therefore, this is one of the first studies that examine business performance antecedent, relating to sustainable competitive advantage. Based on social exchange theory (Blau, 1964; Emerson, 1976) and perspective of knowledge sharing (Chatzoglou and Chatzoudes, 2018; Iqbal *et al.*, 2019), this topic is important in understanding the dynamic scenarios, and provides a better analysis in explaining sustainable competitiveness in Indonesian SMEs. This study uses intellectual capital as a mediator between knowledge sharing and sustainable competitive advantage. Also, business performance serves as a mediator of intellectual capital and sustainable competitive advantage.

The next section discusses the literature review and formulation of hypotheses development. The third part is discussing research methodology, and then data analysis and findings in the fourth section. In the fifth part, this paper presented the conclusion. The last quarter has to do with limitations and suggestions for future research.

2. Literature review and hypothesis development

2.1 Sustainable competitive advantage

Sustainability competitive advantage is the most popular concept in the strategic management field. It explains the factors influencing performances across companies (Sigalas and Papadakis, 2018). It occurs when other companies did not replicate the

benefits of competitive advantage. Organizations focus on identifying different product strategies, building core competencies, employing skilled personnel, and accumulating intellectual property to achieve performance in competitive markets (Bhat and Darzi, 2018). According to Amoako (2019), sustainable competitive advantage is achieved through the role of leadership and the effectiveness of implementing strategies that affect the organization's environmental activities. Gutierrez-Martinez and Duhamel (2019) discovered that the four transversal dimensions, such as leadership orientation, organizational culture, team-based structure, human resources, and control management systems are the main factors for building a competitive advantage based on sustainability. According to Bari et al. (2019), organization needs to make practical innovations to maintain competitive advantage and success.

2.2 Business performance

Business performance is one of the most investigated variables to measure organizational success (Iqbal *et al.*, 2019), particularly on knowledge-based company operations. It also shows the progress and development of the organization, in order to measure the level of effectiveness and efficiency achieved in various fields (Kafetzopoulos *et al.*, 2019). To examine business performance, this study considers the dimensions of product quality, customer satisfaction (Aboramadan, 2019), financial performance and new product development (Khandekar & Sharma, (2005), and types of innovation (Exposito and Sanchis-Ilopis, 2018). Also, it is shaped by the maturity and alignment of management processes (Vuks and Sus, 2019), as well as competitiveness (Jordao *et al.*, 2019). This proves that business performance variable is a multi-dimensional construct, therefore, it needs to be measured comprehensively (Kafetzopoulos *et al.*, 2019).

2.3 Innovation culture

To encourage an organization to have high performance, entrepreneurs need to be more innovative, for example, the development of human resources (Onkelinx *et al.*, 2016) and good leadership (Schell, 2019). In an energetic and fast-moving business environment, the characterization of business operations requires high innovation to create profits and improve performance and productivity (Hanifah et al., 2019b). Through the application of ideas, new discoveries to development products or new services, managerial strategies, procedures, work methods, and technology (Chahal and Bakshi, 2015). Therefore, innovation is an important instrument for adapting to a rapidly changing business environment (Aboramadan, 2019) because it is capable of playing an important role to improve organizational performance and maintain its competitive advantage (Bari and Fanchen, 2017). However, the speed and quality of innovation is more important in complex and ever-changing business environments (Wang et al., 2016; Wang et al., 2016). Ghasemzadeh et al. (2019) stated that innovation is one of the leading strategies, and the critical factors in determining organizational sustainability.

2.4 Knowledge sharing

One of the main processes in knowledge management is sharing and a value-added activity in organizational strategy (Eidizadeh *et al*., 2017) that should be understood, changed, and combined in order to be implemented (Bari *et al.*, 2019). Knowledge sharing among individuals produce new experience (Ahmad, 2018; Masa'deh *et al.*, 2016) that contribute and facilitate synergy, collective learning, and creativity (Singh and Verma, 2019; Tassabehji *et al.*, 2019), accelerating innovation (Dahiyat, 2015) as well as the creation of shared values and standards (Singh *et al.*, 2018). The benefits of sharing knowledge are concerned with network expansion, business opportunities, and improvement of new processes for products and services development (Steffen, 2017). Also, it is more evident when individuals are involved in the collection and donation of knowledge, which results in the synergy between people, therefore,

increasing creativity, eliminating redundancy, and leads to innovation acceleration (Teixeira *et al*., 2019). According to Bari *et al.* (2020), knowledge sharing is referred to as employees' willingness to share information (in the form of ideas, experiences, facts, processes, formulas) with other individuals in the organization.

2.5 Research hypotheses

A review of 88 scientific articles from 1997-2018 found that, knowledge sharing shapes innovation culture and business performance (Singh and Verma, 2019). Also, knowledge management build an innovation orientation in shaping the values of the business model (Wichitsathian and Nakruang, 2019) and competitive advantage (Bashir and Farooq, 2019). Teixeira et al. (2019) stated that it has a strong relationship with innovation, while the SME's culture is determined by employee knowledge sharing (Arsawan *et al*., 2020) and (Wolf *et al*., 2011). Bari *et al.* (2016) showed that the practice of sharing knowledge is developed from the interaction and exchange of beneficial intangible assets. Therefore, knowledge sharing has a significant effect on organizational innovation (Berraies, 2019; Boroujerdi *et al*., 2019; Lin and Chen, 2008). Based on the description, a hypothesis is formulated as follows:

H1: Knowledge sharing has a positive effect on innovation culture.

Knowledge sharing activities contribute to building competitive advantage (Magnier-Watanabe and Senoo, 2009). Also, it shapes new iinformation and improves competitive advantage (Connell and Voola, 2013; Lin and Chen, 2008) through several activities, such as sharing experiences, brainstorming ideas, and practice (Ayanbode, 2020). Furthermore, knowledge sharing has positive effect on competitive advantage, because organizations (SMEs) did not achieve competitive advantage, they only prioritize tangible assets without enhancing knowledge sources (Eidizadeh *et al*., 2017; Soetjipto *et al*., 2018). The knowledge-based assets are the foundations of success and the basis of sustainable competitive advantage (Bashir and Farooq, 2019). Based on the description, a hypothesis is formulated as follows:

H2: Knowledge sharing has a positive effect on sustainable competitive advantage.

Innovation culture is referred to as the shared values, beliefs, and assumptions embraced by organizational members that facilitate transformational process (Dabic *et al*., 2019). Also, it consists of a combination of beliefs, attitudes, values, and behaviours of employees that leads to the improved performance of products, services, and innovations (Sattayaraksa and Boon-itt, 2016; Saunila *et al*., 2014). Therefore, companies need to build a shared value system, including the activities that stimulate open communication, opinions, and new ideas to achieve sustainable innovation. Furthermore, internal innovation instructions help organizational members to send messages to members that their new ideas are valued. When the innovation culture permeates, employees are free to express their ideas and try new method, in order to contribute to the organizational performance (Ghasemzadeh *et al*., 2019; Grimsdottir and Edvardsson, 2018). Previous studies found positive effects of innovation culture on business performance (Exposito and Sanchis-Ilopis, 2018; Kafetzopoulos *et al*., 2019; Kneipp *et al*., 2019). Based on the description, a hypothesis is formulated as follows:

H3: Innovation culture has a positive effect on business performance.

Kneipp *et al.* (2019) stated that companies implementing innovative sustainable practices are able to minimize the potential negative impacts. Also, those that implement high-level innovation are able to develop and maintain a competitive advantage (Soetjipto *et al*., 2018). Therefore, innovation is a crucial factor in the organization's competitive capacity (Chen *et al*., 2015; Saji and Ellingstad, 2016) through effective use of organizational resources (Bari and Fanchen, 2017). However, the development of competitive advantage means that, the organization has resources

and capabilities of making superior products to its competitors, and also providing excellent value to customers (Iqbal *et al.*, 2019). Companies that have innovation culture are more flexible with greater capacity to adapt and respond to changes quickly in periods of instability, and detect new opportunities (Kneipp *et al.*, 2019). Therefore, comprehensive benefits is obtained from the flexibility of an organization and its capacity to react to change appropriately (Anning-Dorson and Nyamekye, 2020; Chatzoglou and Chatzoudes, 2018). Based on the description, a hypothesis is formulated as follows:

H4: Innovation culture has a positive effect on sustainable competitive advantage.

Significant effects of business performance on sustainable competitive advantage have been examined. The study conducted by Soetjipto et al. (2018) found a significant relationship between performance and sustainable competitive advantage. Therefore, to build competitive advantage, radical innovation is needed to achieve substantial performance (Cavaleri and Shabana, 2018). The adaptive leaders and management are required to effectively implement organizational strategies in building business alignment and intelligence maturity for sustainability (Vuks and Sus, 2019). Also, to achieve a competitive advantage, companies should create positive values that are equal to, or over competitors' values (Wang, 2019). Organizational internal resources and capabilities (i.e., leadership orientation, culture, human resource-based structures, and control management systems) should be integrated to produce a business performance and sustainable competitive advantage (Gutierrez-Martinez and Duhamel, 2019). Based on this description, the hypothesis is formulated as follows:

H5: Bussiness performance has a positive effect on sustainable competitive advantage.

The role of human resources is very strategic in creating business performance and building sustainable competitive advantage through attracting appropriate talent, selecting the best employees, developing and improving skills, motivating innovation, and retaining valuable employees (Iqbal *et al.*, 2019; Khandekar and Sharma, 2005). For this reason, organizations should understand the knowledge that employees have, and create adequate mechanisms to form superior human capital. Obtaining the best employees create knowledge sharing, innovation culture, and synergize their contributions in building sustainable competitive advantage (Khandekar and Sharma, 2005). Therefore, innovation has a significant effect on competitive advantage (Chahal and Bakshi, 2015; Chatzoglou and Chatzoudes, 2018), and as a critical factor in the organization's competitive capacity (Chen *et al.*, 2015; Saji and Ellingstad, 2016). Based on this, a hypothesis is formulated as follows:

H6: Innovation culture partially mediates the relationship between knowledge sharing and sustainable competitive advantage.

It is further suggested that the relationship between innovation culture and sustainable competitive advantage is partial, because business performance acts as a mediator between them. However, the dimensions of innovation culture (i.e., organizational culture, the product, process management, and objectives innovation) provide the basis for creating business performance (Ghasemzadeh *et al.*, 2019), overcoming uncertainty of the external environment (Eidizadeh *et al.*, 2017), and facilitates the development of sustainable competitive advantage (Kafetzopoulos *et al.*, 2019). This is because, innovation culture lays the foundation for maintaining business performance (Chatzoglou and Chatzoudes, 2018). Based on this description, a hypothesis is formulated as follows:

H7: Business performance partially mediates the relationship between innovation culture and sustainable competitive advantage.

Therefore, this study examined the relationship between knowledge sharing, innovation culture, business performance, and sustainable competitive advantage in both direct and mediation relationships. The research framework is shown in Figure 1.

Insert Figure 1

3. Research methodology

3.1 Data collection and sample demografics

This survey study was conducted at export SMEs in Bali Province, Indonesia as they were carrying out active transactions to the American, European, and Middle Eastern markets. Some considerations were underlying the selection of research sites. Firstly, export SMEs are always required to innovate in order to adapt to environmental changes. Secondly, innovation is only done with knowledge and creativity. In this case, export SMEs should be supported by good knowledge management (knowledge sharing) to create a sustainable competitive advantage. Therefore, high innovation potential and dynamic organizational strategies are needed.

The population used was 69 export SMEs divided into six business sectors, namely fashion designers and manufacturers, furniture and home decor, spa, aromatic, and specialty products, accessories and jewelry, and services. Using the formula proposed by Krejcie and Morgan (1970), a total of 59 SMEs as a sampling frame was derived. This selection was carried out using random sampling (lottery method). The population and sample were presenting in Table 1.

Insert Table 1

From the 59 SMEs, five respondents were recruited from each to fill out the research questionnaire. The total number of the participants was 295 people, which include managers from three levels, namely low (supervisors), middle (assistants), and top (export-SME). Their selection was triggered by the assumption that they possess organizational strategy, run and make policies related to performance, sustainability, and competitive advantage. The demographic profile of the respondents was presented in Table 2. The questionnaire was distributed through two methods, namely a mail survey and manually submitted when visiting the SMEs. The filling out time of questionnaire was seven months, from March to October 2019.

In the mail survey, questionnaires were sent via email and were eminded once a week to fill the questionnaire naturally. The cover letter also guaranteed that the respondent's answer is only used for research purposes and to maintain confidentiality. While distributing questionnaires directly and achieving high response rates, self-managed surveys were used in a drop-off and pick-up approach, with the help of research assistants, namely students. For this purpose, meetings were arranged with SME either general or human resources managers to seek consent of participation in the study and have them fill out a questionnaire. To maintain anonymity, respondents were not required to write their names. To comply with the university's ethical standards, a cover letter was attached to the questionnaire, explaining the objectives of the research, emphasizing that participation in the survey was purely voluntary, and stating that the data would only be analyzed on an aggregate basis for scientific purposes. To test the validity and reliability, the questionnaires were distributed to the first 30 respondents with the help of SPSS 25.0

Insert Table 2

3.2 Measures

All measures were adopted and modified from previous studies. All constructs were designed using a self-assessment report with a semantic differential scale approach of 1-7 (1-strongly disagree to 7-strongly agree). The questionnaire was developed using simple and easily understood language for the research objectives to be achieved. To measure knowledge sharing, the SECI model was used which consists of socialization, externalization, combination, and internalization adopted from Ayanbode (2020), Berraies (2019), Boroujerdi et al. (2019), Julpisit (2019), Magnier-Watanabe and Senoo (2009), and Steffen (2017).

The measurement of the innovation culture used five dimensions, namely organizational culture, the product, process, management, and objectives innovation (Dabic et al., 2019; Exposito and Sanchis-llopis, 2018; Ghasemzadeh et al., 2019; Hanifah et al., 2019b, 2019a; Sattayaraksa and Boon-itt, 2016; Soetjipto et al., 2018).

Business performance was measured by four dimensions, namely product quality, customer satisfaction, financial performance and new product development (Aboramadan, 2019; Anwar *et al.*, 2018; Charoenrat and Harvie, 2017; Dabic *et al.*, 2019; Exposito and Sanchis-llopis, 2018; Khandekar and Sharma, 2005; Kneipp *et al.*, 2019; Sigalas and Papadakis, 2018; Vuks and Sus, 2019; Zainol and Al Mamun, 2018).

The sustainable competitive advantage used seven dimensions, namely innovation practices, service delivery systems, growth, performance, and market share (Singh and Verma, 2019; Soetjipto *et al*., 2018; Zainol and Al Mamun, 2018), value, rareness, and imperfectly non-imitable (Anwar *et al*., 2018; Bhat and Darzi, 2018; Sigalas and Papadakis, 2018). In measuring these dimensions, modified and elaborated measurements were adopted to best suit the research topic.

Insert Table 3

4. Data analysis and findings

The data were analyzed using PLS-3.0 software with a second-order approach, starting from evaluation of the measurement model, which was aimed at determining the validity and reliability of the dimensions' indicators used, and subsequently testing the inner model through the resampling bootstrapping process.

4.1 Outer model measurement

This study used three methods for reliability measurement, namely convergent, discriminant, and composite validity for each indicator in measuring research variables. The convergent method was used to measure the validity of the indicator and expressed by the value of the outer loading factor. For the early stages of developing a measurement scale, referred to as exploratory study, the loading factor value 0.50-0.60 was still considered sufficient. In this research, the outer loading value of each indicator was between 0.539 and 0.993, meeting the convergent validity requirement (see Table 4). According to the criteria, the HTMT ratio should be less than 0.90 for the formation of the discriminant validity model (Hair *et al*., 2013; Hair Jr *et al*., 2016). Table 5 confirmed that all the HTMT ratios were less than 0.90.

The second step was to test discriminant validity of an indicator in a variable, comparing the square root coefficient of variance extracted (√AVE) from each latent factor with the correlation coefficient between others in the model. The recommended AVE value was above 0.50.

Insert Table 4 and Table 5

The AVE value for knowledge sharing was 0.819, which was greater than the correlation coefficient between other variables, namely 0.773, 0.661, and 0.748. The AVE value for innovation culture was (0.931) greater than the correlation coefficient between other variables, namely 0.857 and 0.747. The AVE value for business performance was (0.896) greater than the correlation coefficient between other variables (0.660). This showed that the indicators representing the dimensions of variables in this study had good discriminant validity (Fornell and Larcker, 1981). The third step used composite reliability to measure the value between indicators of the variable. The results were reliable when the value of the composite reliability and Cronbach alpha was > 0.70 (Chin, 1998).

Insert Table 6

The results of the calculation of composite reliability ranged from 0.809 to 0.986 (>0.70), indicating that the dimensions of the variable were reliable. Also, the Cronbach alpha values ranged from 0.699 to 0.979 (> 0.70), meaning that the dimensions and indicators were reliable, and were declared free from the problem of random error (MacKenzie *et al*., 2011; Singleton and Straits, 2010).

4.2 Inner model measurement

After the outer model was tested, the next step was to examined the inner model using three approaches, first, by evaluating the feasibility of the model by observing the results of the R^2 analysis. Second, by testing the model holistically using the predict relevance method (Stone, 1974) and finally, calculating the Goodness of Fit (GoF). Q^2 and GoF calculations used the R-square coefficient (R^2). R^2 showed the strength of relationships/information between exogenous and endogenous variables. The R^2 value of 0.67 was classified as a robust, 0.33 as a moderate, and 0.19 as a weak model (Chin, 1998).

Insert Table 7

As shown in Table 7, the R^2 value of innovation culture was 0.661, business performance was 0.735, and sustainable competitive advantage was 0.753. Meanwhile, according to Chin (1998), the R^2 value showed that the model was robust, because it was greater than 0.67. The average value of 0.716 means that the model of the relationship between constructs was explained by 71.6%, while the remaining 28.4% was expressed by other external factors. The distribution of the adjusted R^2 value was smaller than that of the normal R^2 value, meaning that a change or expansion of the research model by including other latent variables was still possible (Hair *et al*., 2014).

After understanding that the R^2 test has been passed with good value, the next step was to examine using Q Square Predictive Relevance (Q^2). This was to measure how good the observations produced by the model are. The Q^2 had values ranging from 0 to 1, the closer they were to 1, the better the predictive ability of the model (Stone, 1974). The Q^2 value was calculated using the following formula:

$Q^2 = 1 - [(1-R^2y1) (1-R^2y2) (1-R^2y3)]$
$Q^2 = 1 - [(1-0,661) (1-0.735) (1-0.753)]$
$Q^2 = 1- [(0.339) (0.265) (0.247)]$
$Q^2 = 1- 0.022189$
$Q^2 = 0.977811$ (Q^2 very good predictive relevance)

Q^2 calculation produced a value of 0.9778, which means that the model represented an excellent observation, therefore, explaining 97.78% of the relationship between the variables. In comparison, the remaining 2.22% was a factor of error or others not

included in the research model. After Q^2 testing was carried out, the next step was to validate the overall model by testing the GoF criteria, which the measurement and the structural type.

GoF = $\sqrt{com} \times R^2$
= $\sqrt{0.683} \times 0.716$
= $\sqrt{0.489028}$
= 0.699305

GoF calculation produced a value of 0.699305, close to 1 (one), indicating that the research model was a very fit predictive model. This suggested that the overall measurement accuracy of the model was outstanding. This was based on the criteria set for the value of GoF, 0.10 (small), 0.25 (moderate) and 0.36 (large). A value of 0.699305 indicated that the research model was categorized as having large GoF.

The next step was to test the effect size (f^2) aimed to obtain more detailed information about the amount of variance in the dependent and independent variables in a structural equation model. The criteria for the effect size (f^2) were as follows, 0.02-0.15 (weak), 0.15-0.35 (medium) and >0.35 (strong) (Cohen *et al*., 1998). When the f^2 =0.02, the research model was classified as weak, when f^2 =0.15, it was moderate, and when f^2 =0.35 or above, it was strong effect (Chin, 2010).

Insert Table 8

The results analysis in Table 8 showed a mean of 0.163, which means that there was an indication that a mediation relationship pattern was formed in this study. Furthermore, Figure 1 presented that the highest dimension that reflected the knowledge sharing variable was the externalization (X.2), with a coefficient value of 0.952, which should be given due attention because it significantly contributed to the source of competitive advantage (Magnier-Watanabe and Senoo, 2009). The highest dimension that reflected the innovation culture was organizational culture (Y1.1) with a coefficient value of 0.976, meaning that it was an essential predictor in building an innovation culture (Aboramadan, 2019). The highest dimension that reflected business performance was the new product development (Y2.4) with a coefficient value of 0.975, meaning that it was essential in building competitive advantage (Lin and Chen, 2008). The highest dimension that reflected the sustainable competitive advantage variable was the innovative practices (Y3.5) with a value of 0.934, which means that it was critical in building superior performance (Kneipp *et al*., 2019).

4.3 Testing research hypotheses

After the outer and inner model tests were completed, the next important step was examining the hypothesis which was carried out through two stages, namely testing the direct and indirect effects of the exogenous and endogenous variable. In the output path coefficient, as shown in Table 8, the direct relationship between variables was presented in the original sample.

Insert Table 9

Table 9 presented the information about the analysis of the direct relationship between research variables. The path coefficient of the direct relationship between knowledge sharing and innovation culture was 34.000>1.96, which means that it was significant, and hypothesis 1 was accepted. These results were consistent with the survey conducted by Iqbal et al., (2019), which found that knowledge sharing played a crucial role in building innovation (Boroujerdi *et al*., 2019). Meanwhile, organizations that absorbed, changed, and applied new idea quickly and competitively (Ghasemzadeh *et al*., 2019) were found to promote the process of sharing knowledge more successfully

in innovation (Berraies, 2019; Boroujerdi *et al*., 2019; Singh and Verma, 2019). In the business context, SMEs should build a cultural structure that recognizes and encourages learning, creativity, employee motivation, and ambition for the openness of knowledge, and collaboration (Grimsdottir and Edvardsson, 2018). These results contradicted that of the survey carried out by Teixeira et al., (2019) and Susanty et al. (2019), which found that knowledge sharing did not contribute significantly to innovation.

The coefficient of the relationship of knowledge sharing with sustainable competitive advantage was 10.969 > 1.96, which means that, it was significant, therefore, hypothesis 2 was accepted. This finding was consistent with the study conducted by Connell & Voola, (2013), which found that knowledge sharing was a source of competitive advantage because, it had a significant effect on competitive advantage (Lin and Chen, 2008). Another study conducted by Magnier-Watanabe & Senoo (2009) examined the knowledge sharing dimension (SECI activities) as a source of competitive advantage, assuming that the idea provided unique, inimitable, and powerful intangible assets (Eidizadeh *et al*., 2017).

The coefficient of the relationship between innovation culture and business performance was 38.768 > 1.96, which means that it was significant, therefore, hypothesis 3 was accepted. Consequently, innovation culture had a significant positive relationship with business performance. This suggested that to achieve superior performance, innovation culture should not be underestimated. Furthermore, a study conducted by Sayyadi (2019) found that, creating ideas and sharing new knowledge increase creativity, efficiency, and achieve the intended targets (Hanifah et al., 2019). Furthermore, they increase organizational innovation and motivate employees to solve problems leading to increased performance. Hanifah et al., (2019) found that innovation culture enabled SMEs to react in an attempt to secure their competitive position in the challenging markets. Also, Kafetzopoulos et al., (2019) found that it was a key variable for achieving business performance (Dabic *et al*., 2019) because it supported and built sustainable innovation culture (Anning-Dorson, 2018; Kneipp *et al*., 2019). A study conducted by Aboramadan (2019) found that technological and market innovation had a significant effect on performance.

The path coefficient of the direct relationship between innovation culture and sustainable competitive advantage was 3.704 > 1.96, which means that it was significant, and hypothesis 4 was accepted. These results were in line with previous research (Grimsdottir and Edvardsson, 2018; Lin and Chen, 2008), which found that SMEs benefited from innovation to create new products, prototypes, processes and to enhance competitive advantage. This finding showed that export SMEs inevitably have to be creative and innovative to survive and gain a competitive advantage in the global market (Eidizadeh *et al*., 2017; Singh and Verma, 2019). However, in today's dynamic and changing environment, innovation culture is the key to gaining competitive advantage, achieving high performance, and surviving in the global economy. The path coefficient of the direct relationship between business performance and sustainable competitive advantage was 4.778 > 1.96, which means that it was significant, and hypothesis 5 was accepted. Therefore, business performance is an essential predictor for creating sustainable competitive advantage. These results were in consistence with the research conducted by Cavaleri & Shabana (2018), which found that building a competitive advantage was carried out through innovation. The improvement of the organizational performance was obtained through the exploitation of internal and external capabilities, as well as the creation of ambitious strategies to achieve diversification during turbulence periods (Lin *et al*., 2020).

Insert Table 10

After obtaining the results of a direct relationship between variables, the next step was to determine the position of the mediating factors indirectly. In this research model, there were two paths of mediation that were tested, namely the innovation culture and business performance. Following Hair et al. (2014), the method used was by examining the value of VAF < 0.20, which means that there was no mediation, while 0.20 - 0.80 indicated partial, and VAF value > 0.80 means full. Table VIII showed the results of the mediation variable test. To examine the effects of mediation in the research model, the non-parametric bootstrapping was used. To assess the role of mediation, the mediating variable should absorb some direct effects of the independent factors from the dependent. Finally, to assess mediation, the value of the Variance Accounted For (VAF) was calculated to obtain the size of the indirect and the total links. When the VAF was greater than 80%, then it should be argued as full mediation, between 20 and 80%, it was partial, and below 20%, it means that there was no mediating effect (Hair *et al.*, 2014). Because there were two mediation channels tested in this study, it was concluded that innovation culture partially mediated the relationship between KS and SCA, where the VAF value was equal to 63.30%, indicating that hypothesis 6 was accepted. At the same time, business performance also served as a partial mediation relationship between innovation culture and sustainable competitive advantage with a VAF value of 51.66%, which means hypothesis 7 was accepted.

5. Conclusion

Amidts a rapid change in the industrial revolution 4.0, the role of SME sector in solving social and environmental problems was manifested through innovation and competition, being sensitive to change, knowledge mapping, and valuing intellectual capital (Nakruang *et al.*, 2020). The SMEs also developed through innovation, creation, and knowledge sharing to create new products, services, and changing customer needs to maintain a sustainable competitive advantage (Berraies, 2019).

SMEs that were unable to learn, manage knowledge according to changing situations, and innovate did not have the ability to survive (Wichitsathian and Nakruang, 2019). This encouraged SMEs to build a system of mutually beneficial values and trust to create cohesion and support mechanisms (Vesna *et al.*, 2019), building healthy interactions and sharing of intangible assets (Bari *et al.*, 2016). They were also able to change business strategies by integrating knowledge, in order to remain competitive in the dynamic market, as well as to build a research and development network in strengthening the performance of sustainable innovation (Julpisit, 2019; Zhang, 2019). The ability to apply knowledge management was the most relevant in gaining a sustainable competitive advantage (Arsawan *et al.*, 2018; Bashir and Farooq, 2019). Optimizing knowledge sharing was expected to create and strengthen problem-solving strategies, which ultimately promote their innovation culture.

5.1 Academic implication

This research has contributed to four domains, namely offering knowledge and conceptualization of new models, which were more comprehensive, providing a clear and systematic understanding of the variables' relationship (Gutierrez-Martinez and Duhamel, 2019). Therefore, sustainable competitive advantage testing was performed with new variables, models, analytical tools, and different research methodologies. More specifically, this study has introduced a second-order approach to all research variables that were evaluated indirectly through the assessment of sub-factors. Also, this study offered a reliable and valid model that provides empirical evidence of supporting the notion that knowledge sharing, innovation culture, business performance, and sustainable competitive advantage were measured through their respective dimensions. This research has also answered the second gap that

innovation culture is critical, particularly in SMEs. Generally, this enterprise has reactive, flexible, and risky organizations, however, it has more innovative than larger companies. This indicated that SME managers have innovated to compete with established larger companies successfully. These innovation should be in line with organizational change management (Mitra *et al.*, 2019) because innovation is a source of creativity and practical solutions in maintaining competitive advantage (Arsawan *et al.*, 2020; Bari *et al.*, 2019).

These results proved to answer the third gap, stating that competitive advantages were associated with knowledge and innovation culture, especially in developing countries (Singh and Verma, 2019). It was concluded that sustainable competitive advantage played a vital role in the long-term survival and success of SMEs (Anwar *et al*., 2018). This indicated that SMEs in Indonesia have a high level of innovation culture to successfully develop and maintain competitive advantage (Soetjipto *et al.*, 2018). Fourth, sustainable competitive advantage deserves to be examined in the context of developing countries (Sajjad *et al.*, 2018), as evidenced by considering their determinants, as well as export SMEs in Indonesia facing challenges of global market. This also indicated an important issue that sustainability is worth being performed by developing countries (Orazalin *et al*., 2019). Moreover, companies have substantial opportunities to differentiate through sustainability. This means that competitive advantage showed a higher self-image than competitors.

This research also contributed to the literature on innovation culture as a mediator in the relationship of knowledge sharing and business performance. A fair idea sharing produced innovation culture that strengthen the business performance. Organizations should understand the knowledge of employees, gather (Bari *et al.*, 2019), and able to synergize their contributions in building sustainable competitive advantage (Khandekar and Sharma, 2005). These results changed the point of view of Barney and Barney (2001) regarding the competitive advantage and Resource-Based View. They also explained that the firms building their strategies on pathways-dependent, ambiguous, socially involved, and intangible causes, outperformed those that make theirs only on tangible assets. Therefore, the role of sharing knowledge as an intangible asset in shaping innovation was the foundation in building sustainable competitive advantage. Also, business performance was a mediator between innovation culture and sustainable competitive advantage. The dimensions of innovation culture (i.e., culture, product, process, management, and objective) provided the basis for creating business performance and create sustainable competitive advantage. The culture of innovation was a fundamental element and a source of sustainable competitive advantage, it was relevantly used to maintain SME's performance (Iqbal *et al.*, 2019).

The 2019 Global Competitiveness Index report showed that individuals or institutions originating from Indonesia have weak internal drivers, especially in business dynamism (11th pillar) and innovation capabilities (12th pillar). This statistical report also showed that Indonesia ranks 74th out of 141 countries. The research and development activity ranking was also still low, at 83rd. This figure means that Indonesia did not yet have sufficient capacity to innovate (WEF, 2019).

5.2 Managerial implications

From a managerial point of view, this research provided a grid for practitioners to understand better what they should develop to optimize the role of knowledge sharing and innovation culture in SMEs. In this case, following the results of this study, analytical skills should be developed to enhance knowledge sharing interactions at all managerial levels, and building an organizational culture which supports this process (Vesna *et al.*, 2019). In particular, managers should realize that knowledge sharing not only signifies its ownership, also, it makes great efforts to develop metacognitive

strategies in adopting, disseminating and creating new idea. Reflecting on the Social Exchange Theory (Blau, 1964), employees that received awards, are expected to pay back with high behaviour and motivation in providing support to the organization (Shaheen *et al*., 2019). For this reason, knowledge-sharing culture was strengthened to increase innovative behaviour (Arsawan *et al*., 2020).

Knowledge-sharing culture was also built to manage intellectual capital for each employee to develop in skills, fostering collective intelligence as the driver of innovation and professional development (Ayanbode, 2020), and also building trust among employees to prevent knowledge hiding behaviour (Bari *et al*., 2020). However, it was crucial to focus on the right innovation strategy, in developing policy designs from a multi-dimensional approach (Exposito and Sanchis-Ilopis, 2018). Also, developing managerial skills contribute to business performance and its sustainability in terms of human resource management, marketing, sales, production, and logistics (Popescu *et al*., 2020). Finally, to anticipate a dynamic business environment, organizations should implement change management, organizational renewal, direction, and restructure, in response to the demands of changing stakeholders (Mitra *et al*., 2019).

6. Research limitations and future research

The limitations encountered were as follows, first, this was a behavioral study which involved data collection and conducted only on export SMEs, which produced results that were inconsistent with other contexts. Therefore, these findings require further validation. Secondly, this study used a self-report instrument to collect data from the variables. Subsequently, this was used for the appropriate measurement of psychological ownership and variables, therefore, it was the best data collecting method, since only the informants were cognizant of their knowledge. However, this approach was not free from the effects of bias. Third, the implementation of the resulting framework required a considerable amount of time. However, before this process, applied studies need to be conducted.

In the future research, behavioral factor is recommended to investigate the relationship between knowledge sharing and innovation culture, and should be conducted longitudinally using more variables. Comparative study also needs to be undertaken to compare SMEs and other sectors, such as education, banking and information technology. Also, the SMEs maintaining a sustainable competitive advantage, are capable of experiencing expansion and attaining international level. Therefore, the research on the opportunities of linking competitive advantage and internationalization is an interesting study, in addition to using control variables, such as firm size and age, and the ownership type.

References

Abdul-Halim, H., Ahmad, N.H., Geare, A. and Thurasamy, R. (2018), "Innovation culture in SMEs: The importance of organizational culture, organizational learning and market orientation", *Entrepreneurship Research Journal*, Vol. 9 No. 3.

Aboramadan, M. (2019), "Organizational culture, innovation and performance: a study from a non-western context", *Journal of Management Development*, Vol. ahead-of-p No. ahead-of-print.

Ahmad, F. (2018), "Knowledge sharing in a non-native language context : Challenges and strategies", *Journal of Information Science*, Vol. I No. 1, pp. 1–17.

Ahmad, M.M. and Alaskari, O. (2014), "Development of assessment methodology for improving performance in SME's", *International Journal of Productivity and Performance Management*, Vol. 63 No. 4, pp. 477–498.

Amoako, G.K. (2019), "A conceptual framework: Corporate environmental management activities and sustainable competitive advantage", *Management of Environmental Quality: An International Journal*, Vol. 31 No. 2, pp. 331–347.

Anning-Dorson, T. (2018), "Innovation and competitive advantage creation: The role of organisational leadership in service firms from emerging markets", *International Marketing Review*, Vol. 35 No. 4, pp. 580–600.

Anning-Dorson, T. and Nyamekye, M.B. (2020), "Be flexible: turning innovativeness into competitive advantage in hospitality firms", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 2, pp. 605–624.

Anwar, M., Rehman, A.U. and Shah, S.Z.A. (2018), "Networking and new venture's performance: mediating role of competitive advantage", *International Journal of Emerging Markets*, Vol. 13 No. 5, pp. 998–1025.

Appel-Meulenbroek, R., Vries, B. De and Weggeman, M. (2017), "Knowledge sharing behavior : the role of spatial design in buildings", *Environment and Behavior*, Vol. 49 No. 8, pp. 874–903.

Arsawan, I.W.E., Rajiani, I. and Suryantini, N.P.S. (2018), "Investigating knowledge transfer mechanism in five star hotels", *Polish Journal of Management Studies*, Vol. 18 No. 2, pp. 22–32.

Arsawan, I.W.E., Rajiani, I., Wirga, I.W. and Suryantini, N.P.S. (2020), "Harnessing knowledge sharing practice to enhance innovative work behavior: The paradox of social exchange theory", *Polish Journal of Management Studies*, Vol. 21 No. 2, pp. 60–73.

Ayanbode, O.F. (2020), "Collaborative technologies and knowledge management in psychiatric hospitals in South West Nigeria", *Information Development*, Vol. xx No. x, pp. 1–22.

Bari, M.W., Abrar, M., Shaheen, S., Bashir, M. and Fanchen, M. (2019), "Knowledge hiding behaviors and team creativity: The contingent role of perceived mastery motivational climate", *SAGE Open*, Vol. 9 No. 3, available at:https://doi.org/10.1177/2158244019876297.

Bari, M.W. and Fanchen, M. (2017), "Personal interaction drives innovation: Instrumental Guanxi-based knowledge café approach", *Handbook of Research on Tacit Knowledge Management for Organizational Success*, pp. 176–200.

Bari, M.W., Fanchen, M. and Baloch, M.A. (2016), "Management practices and performance of mergers and acquisitions in Pakistan: mediating role of psychological contract", *SpringerPlus*, Vol. 5 No. 1, available at:https://doi.org/10.1186/s40064-016-3184-3.

Bari, M.W., Ghaffar, M. and Ahmad, B. (2020), "Knowledge-hiding behaviors and employees' silence: mediating role of psychological contract breach", *Journal of Knowledge Management*, 1 January, available at:https://doi.org/10.1108/JKM-02-2020-0149.

Bashir, M. and Farooq, R. (2019), "The synergetic effect of knowledge management and business model innovation on firm competence: A systematic review",

International Journal of Innovation Science, Vol. 11 No. 3, pp. 362–387.
Berraies, S. (2019), "Effect of middle managers' cultural intelligence on firms' innovation performance: Knowledge sharing as mediator and collaborative climate as moderator", *Personnel Review*, Vol. 49 No. 4, pp. 1015–1038.
Bhat, S.A. and Darzi, M.A. (2018), "Service, people and customer prientation: A capability view to CRM and sustainable competitive advantage", *Vision*, Vol. 22 No. 2, pp. 163–173.
Blau, P.M. (1964), "Social exchange theory".
Boroujerdi, S.S., Hasani, K. and Delshab, V. (2019), "Investigating the influence of knowledge management on organizational innovation in higher educational institutions", *Kybernetes*, Vol. 49 No. 2, pp. 442–459.
Cavaleri, S. and Shabana, K. (2018), "Rethinking sustainability strategies", *Journal of Strategy and Management*, Vol. 11 No. 1, pp. 2–17.
Chahal, H. and Bakshi, P. (2015), "Examining intellectual capital and competitive advantage relationship: Role of innovation and organizational learning", *International Journal of Bank Marketing*, Vol. 33 No. 3, pp. 376–399.
Chang, W.-J., Liao, S.-H. and Wu, T.-T. (2017), "Relationships among organizational culture, knowledge sharing, and innovation capability: a case of the automobile industry in Taiwan", *Knowledge Management Research & Practice*, Vol. 15 No. 3, pp. 471–490.
Charoenrat, T. and Harvie, C. (2017), "The performance of Thai manufacturing SMEs: Data envelopment analysis (DEA) approach", *Global Business Review*, Vol. 18 No. 5, pp. 1178–1198.
Chatzoglou, P. and Chatzoudes, D. (2018), "The role of innovation in building competitive advantages: an empirical investigation", *European Journal of Innovation Management*, Vol. 21 No. 1, pp. 44–69.
Chen, S., Bu, M., Wu, S. and Liang, X. (2015), "How does TMT attention to innovation of Chinese firms influence firm innovation activities? A study on the moderating role of corporate governance", *Journal of Business Research*, Vol. 68 No. 5, pp. 1127–1135.
Chin, W.W. (1998), "Commentary: Issues and opinion on structural equation modeling", *Mis Quarterly*, Vol. 22 No. 1, pp. vii–xvi.
Chin, W.W. (2010), "How to Write Up and Report PLS Analyses", *Handbook of Partial Least Squares*, pp. 655–690.
Cohen, J.D., Usher, M. and McClelland, J.L. (1998), "A PDP approach to set size effects within the Stroop task: Reply to Kanne, Balota, Spieler, and Faust (1998).", *Psychological Review*, Vol. 105 No. 1, pp. 188–194.
Connell, J. and Voola, R. (2013), "Knowledge integration and competitiveness: A longitudinal study of an industry cluster", *Journal of Knowledge Management*, Vol. 17 No. 2, pp. 208–225.
Dabic, M., Laznjak, J., Smallbone, D. and Svarc, J. (2019), "Intellectual capital, organisational climate, innovation culture, and SME performance: Evidence from Croatia", *Journal of Small Business and Enterprise Development*, Vol. 26 No. 4, pp. 522–544.
Dahiyat, S.E. (2015), "An integrated model of knowledge acquisition and innovation: examining the mediation effects of knowledge integration and knowledge application", *International Journal of Learning and Change*, Vol. 8 No. 2, pp. 101–135.
Eidizadeh, R., Salehzadeh, R. and Chitsaz Esfahani, A. (2017), "Analysing the role of business intelligence, knowledge sharing and organisational innovation on gaining competitive advantage", *Journal of Workplace Learning*, Vol. 29 No. 4, pp. 250–267.
Emerson, R.M. (1976), "Social exchange theory", *Annual Review of Sociology*, Vol. 2 No. 1, pp. 335–362.
Exposito, A. and Sanchis-Ilopis, J.A. (2018), "Innovation and business performance for

Spanish SMEs : New evidence from a multi-dimensional approach", *International Small Business Journal*, Vol. 36 No. 8, pp. 911-931.
Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39–50.
Ghasemzadeh, P., Nazari, J.A., Farzaneh, M. and Mehralian, G. (2019), "Moderating role of innovation culture in the relationship between organizational learning and innovation performance", *Learning Organization*, Vol. 26 No. 3, pp. 289–303.
Grimsdottir, E. and Edvardsson, I.R. (2018), "Knowledge Management, Knowledge Creation, and Open Innovation in Icelandic SMEs", *SAGE Open*, Vol. 8 No. 4, pp. 1–13.
Gutierrez-Martinez, I. and Duhamel, F. (2019), "Translating sustainability into competitive advantage: the case of Mexico's hospitality industry", *Corporate Governance (Bingley)*, Vol. 19 No. 6, pp. 1324–1343.
Hair, J.F., Ringle, C.M. and Sarstedt, M. (2013), "Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance", *Long Range Planning*, Vol. 46 No. 1–2, pp. 1–12.
Hair, J.F., Sarstedt, M., Hopkins, L. and Kuppelwieser, V.G. (2014), "Partial least squares structural equation modeling (PLS-SEM)", *European Business Review*, Vol. 26 No. 2, pp. 106–121.
Hair Jr, J.F., Sarstedt, M., Matthews, L.M. and Ringle, C.M. (2016), "Identifying and treating unobserved heterogeneity with FIMIX-PLS: part I–method", *European Business Review*, Vol. 28 No. 1, pp. 63–76.
Hanifah, H., Halim, H.A., Ahmad, N.H. and Vafaei-Zadeh, A. (2019a), "Can internal factors improve innovation performance via innovation culture in SMEs?", *Benchmarking*, Vol. 2020, pp. 2016–2020.
Hanifah, H., Halim, H.A., Ahmad, N.H. and Vafaei-Zadeh, A. (2019b), "Emanating the key factors of innovation performance: leveraging on the innovation culture among SMEs in Malaysia", *Journal of Asia Business Studies*, Vol. 13 No. 4, pp. 559–587.
Iqbal, A., Latif, F., Marimon, F., Sahibzada, U.F. and Hussain, S. (2019), "From knowledge management to organizational performance: Modelling the mediating role of innovation and intellectual capital in higher education", *Journal of Enterprise Information Management*, Vol. 32 No. 1, pp. 36–59.
Jordao, R.V.D., Novas, J. and Gupta, V. (2019), "The role of knowledge-based networks in the intellectual capital and organizational performance of small and medium-sized enterprises", *Kybernetes*, Vol. 18 No. 3, pp. 116–140.
Julpisit, A. (2019), "A collaborative system to improve knowledge sharing in scientific research projects", Vol. 35 No. 4, pp. 624–638.
Kafetzopoulos, D., Gotzamani, K. and Skalkos, D. (2019), "The relationship between EFQM enablers and business performance: The mediating role of innovation", *Journal of Manufacturing Technology Management*, Vol. 30 No. 4, pp. 684–706.
Khandekar, A. and Sharma, A. (2005), "Managing human resource capabilities for sustainable competitive advantage: An empirical analysis from Indian global organisations", *Education and Training*, Vol. 47 No. 8–9, pp. 628–639.
Kneipp, J.M., Gomes, C.M., Bichueti, R.S., Frizzo, K. and Perlin, A.P. (2019), "Sustainable innovation practices and their relationship with the performance of industrial companies", *Revista de Gestão*, Vol. 26 No. 2, pp. 94–111.
Lin, H., Hsu, I., Wenhsin, A. and Chung, H. (2020), "Technological forecasting & social change creating competitive advantages: Interactions between ambidextrous diversification strategy and contextual factors from a dynamic capability perspective", *Technological Forecasting & Social Change*, Vol. 154 No. January, pp. 1–11.
Lin, M.J.J. and Chen, C.J. (2008), "Integration and knowledge sharing: Transforming to long-term competitive advantage", *International Journal of Organizational Analysis*, Vol. 16 No. 1–2, pp. 83–108.

MacKenzie, S.B., Podsakoff, P.M. and Podsakoff, N.P. (2011), “Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques”, *Mis Quarterly*, Vol. 35 No. 2, pp. 293–334.
Magnier-Watanabe, R. and Senoo, D. (2009), “Congruent knowledge management behaviors as discriminate sources of competitive advantage”, *Journal of Workplace Learning*, Vol. 21 No. 2, pp. 109–124.
Mahmoud, M.A., Blankson, C., Owusu-Frimpong, N., Nwankwo, S. and Trang, T.P. (2016), “Market orientation, learning orientation and business performance: The mediating role of innovation”, *International Journal of Bank Marketing*, Vol. 34 No. 5, pp. 623–648.
Malhotra, Y. (2001), *Knowledge Management and Business Model Innovation*, IGI Global, Pennsylvania.
Masa’deh, R., Obeidat, B.Y. and Tarhini, A. (2016), “A Jordanian empirical study of the associations among transformational leadership, transactional leadership, knowledge sharing, job performance, and firm performance: A structural equation modelling approach”, *Journal of Management Development*, Vol. 35 No. 5, pp. 681–705.
Mitra, A., Gaur, S.S. and Giacosa, E. (2019), “Combining organizational change management and organizational ambidexterity using data transformation”, *Manajemen Decision*, Vol. 57 No. 8, pp. 1–24.
Nakruang, D., Donkwa, K. and Suvittawat, A. (2020), “The causal factors influencing corporate sustainability performance: case of community SMEs in three southern border provinces, Thailand”, *Entrepreneurship and Sustainability Issues*, Vol. 7 No. 3, pp. 1459–1471.
Onkelinx, J., Manolova, T.S. and Edelman, L.F. (2016), “Human capital and SME internationalization: Empirical evidence from Belgium”, *International Small Business Journal*, Vol. 34 No. 6, pp. 818–837.
Orazalin, N., Mahmood, M. and Narbaev, T. (2019), “The impact of sustainability performance indicators on financial stability: evidence from the Russian oil and gas industry”, *Environmental Science and Pollution Research*, Vol. 26 No. 8, pp. 8157–8168.
Petrova, M., Koval, V., Tepavicharova, M., Zerkal, A., Radchenko, A. and Bondarchuk, N. (2020), “The interaction between the human resources motivation and the commitment to the organization”, *Journal of Security & Sustainability Issues*, Vol. 9 No. 3.
Popescu, L., Iancu, A., Avram, M., Avram, D. and Popescu, V. (2020), “The role of managerial skills in the sustainable development of SMEs in Mehedinti County, Romania”, *Sustainability*, Vol. 12 No. 1119, pp. 1–16.
Saji, B.S. and Ellingstad, P. (2016), “Social innovation model for business performance and innovation”, *International Journal of Productivity and Performance Management*, Vol. 65 No. 2, pp. 256–274.
Sajjad, A., Jillani, A. and Raziq, M.M. (2018), “Sustainability in the Pakistani hotel industry: an empirical study”, *Corporate Governance: The International Journal of Business in Society*, Vol. 18 No. 4, pp. 714–727.
Sattayaraksa, T. and Boon-itt, S. (2016), “CEO transformational leadership and the new product development process”, *Leadership & Organization Development Journal*, Vol. 37 No. 6, pp. 730–749.
Saunila, M. (2016), “Performance measurement approach for innovation capability in SMEs”, *International Journal of Productivity and Performance Management*, Vol. 65 No. 2, pp. 162–176.
Saunila, M., Pekkola, S. and Ukko, J. (2014), “The relationship between innovation capability and performance”, *International Journal of Productivity and Performance Management*, Vol. 63 No. 2, pp. 234–249.
Sayyadi, M. (2019), “How effective leadership of knowledge management impacts

organizational performance", Vol. 36 No. 1, pp. 30–38.
Schell, W.J. (2019), "Leadership and change management", *Traffic Safety Culture: Definition, Foundation, and Application*, Emerald Publishing Limited, United Kingdom, pp. 191–218.
Sergeeva, A. and Andreeva, T. (2016), "Knowledge sharing research : bringing context back in", *Journal of Management Inquiry*, Vol. 25 No. 3, pp. 240 –261.
Shaheen, S., Bari, M.W., Hameed, F. and Anwar, M.M. (2019), "Organizational cronyism as an antecedent of ingratiation: Mediating role of relational psychological contract", *Frontiers in Psychology*, Vol. 10 No. July, available at:https://doi.org/10.3389/fpsyg.2019.01609.
Sigalas, C. and Papadakis, V.M. (2018), "Empirical investigation of relationship patterns between competitive advantage and superior performance", *Journal of Strategy and Management*, Vol. 11 No. 1, pp. 81–111.
Singh, A.K. and Verma, R. (2019), "Understanding Role of Market- orientated IT Competence and Knowledge Sharing Mechanism in Gaining Competitive Advantage", *Global Business Review*, pp. 1–18.
Singh, D., Khamba, J.S. and Nanda, T. (2017), "Influence of technological innovation on performance of small manufacturing companies", *International Journal of Productivity and Performance Management*, Vol. 66 No. 7, pp. 838–856.
Singh, J.B., Chandwani, R. and Kumar, M. (2018), "Factors affecting Web 2.0 adoption: exploring the knowledge sharing and knowledge seeking aspects in health care professionals", *Journal of Knowledge Management*, Vol. 22 No. 1, pp. 21–43.
Singleton, R. and Straits, B. (2010), "Survey research", *Approaches to Social Research*, pp. 263–308.
Soetjipto, B.E., Murwani, F.D. and Wahyono, H. (2018), "The Role of SMEs ' Innovation and Learning Orientation in Mediating the Effect of CSR Programme on SMEs ' Performance and Competitive Advantage", *Global Business Review*, Vol. 19 No. 99, pp. S21–S38.
Steffen, M.O. (2017), "Knowledge sharing among companies in a science and technology park", Vol. 34 No. 2, pp. 101–108.
Stone, M. (1974), "Cross-Validatory Choice and Assessment of Statistical Predictions", *Journal of the Royal Statistical Society: Series B (Methodological)*, Vol. 36 No. 2, pp. 111–133.
Susanty, A.I., Yuningsih, Y. and Anggadwita, G. (2019), "Knowledge management practices and innovation performance: A study at Indonesian government apparatus research and training center", *Journal of Science and Technology Policy Management*, Vol. 10 No. 2, pp. 301–318.
Tassabehji, R., Mishra, J.L. and Dominguez-Péry, C. (2019), "Knowledge sharing for innovation performance improvement in micro/SMEs: an insight from the creative sector", *Production Planning & Control*, Vol. 30 No. 10–12, pp. 935–950.
Teixeira, E.K., Oliveira, M. and Curado, C. (2019), "Linking knowledge management processes to innovation: A mixed-method and cross-national approach", *Management Research Review*, Vol. 43 No. 3, pp. 332–349.
Vesna, S.-A., Eric Nielsen, J. and Boskovic, A. (2019), "Organizational prerequisites for knowledge creation and sharing: empirical evidence from Serbia", *Journal of Knowledge Management*, Vol. 23 No. 8, pp. 1543–1565.
Vuks, V.B. and Sus, D. (2019), "BPM and BI in SMEs: The role of BPM/BI alignment in organizational performance", Vol. 11, pp. 1–16.
Wang, C.H. (2019), "How organizational green culture influences green performance and competitive advantage: The mediating role of green innovation", *Journal of Manufacturing Technology Management*, Vol. 30 No. 4, pp. 666–683.
Wang, Z., Sharma, P.N. and Cao, J. (2016), "From knowledge sharing to firm performance: A predictive model comparison", *Journal of Business Research*, Vol. 69 No. 10, pp. 4650–4658.
Wang, Z., Wang, N., Cao, J. and Ye, X. (2016), "The impact of intellectual capital–

knowledge management strategy fit on firm performance", *Management Decision*, Vol. 54 No. 8, pp. 1861–1885.
WEF. (2019), *The Global Competitiveness Report*, available at: http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf.
Wichitsathian, S. and Nakruang, D. (2019), "Knowledge integration capability and entrepreneurial orientation: case of Pakthongchai Silk Group", *Entrepreneurship and Sustainability Issues*, Vol. 7 No. 2, pp. 977–989.
Wolf, P., Kaudela-baum, S. and Meissner, J.O. (2011), "Exploring innovating cultures in small and medium-sized enterprises: Findings from Central Switzerland", *International Small Business Journal*, Vol. 30 No. 3, pp. 242–274.
Zainol, N.R. and Al Mamun, A. (2018), "Entrepreneurial competency, competitive advantage and performance of informal women micro-entrepreneurs in Kelantan, Malaysia", *Journal of Enterprising Communities*, Vol. 12 No. 3, pp. 299–321.
Zhang, J. (2019), "Reconciling the dilemma of knowledge sharing: A network pluralism framework of firms 'R & D' alliance network and innovation performance", *Journal of Management*, Vol. 45 No. 7, pp. 2635–2665.

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