
The nexus between knowledge management practices and firm innovation

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Abstract: While firms operate in an extremely hyper-competitive environment, innovation becomes the invader of the competitive game. Over the past two decades, knowledge management practices have gained considerable attention among researchers and practitioners as a salient enabler of firm innovation. Notably, the extant literature on knowledge management practices and firm innovation is sparse and evidences contradicting findings. Therefore, the study was designed to examine the effect of knowledge management practices on firm innovation. Data were garnered using a self-reported questionnaire from 118 managers and owners of small and medium-sized enterprises (SMEs) in Sri Lanka. The model's validity and hypotheses were tested using partial least squares structural equation modelling (PLS-SEM). The study found that knowledge acquisition, knowledge application, and knowledge sharing have a significant positive effect on SMEs innovation. The findings shed new light on the importance of knowledge management practices and its interventions on firm innovation in SMEs from the perspective of a developing country.

Keywords: knowledge management practices; knowledge acquisition; knowledge application; knowledge sharing; firm innovation.

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1 Introduction

Over the last two decades, firms confront severe challenges in reaping sustainable competitive advantage (Baheti and Lenka, 2021; Kengatharan, 2021; Lin and Lee, 2005; Tamer Cavusgil et al., 2003). Consequently, organisational capabilities, specifically innovation, have gained considerable attention as a substantial enabler of organisational performance and help firms for sustainable competitive advantage (Baheti and Lenka, 2021; Jiménez-Jimenez et al., 2008; Noopur, 2021). For instance, the study of Plessis (2007) highlighted that innovation is the backbone of organisations that promotes sustainable competitive advantage. The rapid speed of innovation has transformed the nature of global economic growth, which in return, the evolution of sophisticated technology, new product development, and a shorter product lifecycle (Carneiro, 2000). Kamaşak and Bulutlar (2010) emphasised that innovation is vital when firms are starving to captivate their position in the market and confirm the firm's continued survival. To stay competitive, innovation should turn into a lifestyle (Jiménez-Jimenez et al., 2008). Sustained innovation necessitates both solidness and transformation. The solidness grants economies of scale and gradual learning, while transformation and experimentation yield changes in products, processes, and technologies (Beugelsdijk, 2008). However, promoting innovation is the core interest of managers and policymakers (Haneda and Ito, 2018; Kamath et al., 2016). In the literature, the concept of innovation is delineated in various ways (Plessis, 2007). Chen et al. (2013) define innovation as the process of introducing a new blend of production factors into the production system. It could encompass new technology, new product, new market, and a unique combination. Herkema (2003) delineates innovation as the knowledge process directed toward creating novel knowledge prepared for developing profitable and desirable solutions. Innovation is thus a process whereby knowledge is obtained, distributed, and understood to create new knowledge, comprising products and services (Plessis, 2007). Existing literature shows that knowledge management (KM) practices enable firms to leverage innovation (Obeidat et al., 2016; Lin and Lee, 2005; Baró, 2008; Plessis, 2007; Carneiro, 2000).

In the knowledge-driven era, firms' resources and competencies are recognised as vital factors to survive and thrive in the volatile business environment (Kengatharan, 2021; Subramaniam and Youndt, 2005). In the past, researchers focus on the importance of KM in establishing a sustainable competitive advantage (Gold et al., 2001; Sartori et al., 2020). There is no widely recognised definition for KM (Darroch and McNaughton, 2002). Gloet and Terziovski (2004) describe KM as the formalisation and distribution of expertise, experience, and knowledge that creates and advances new skills, enables higher performance, fosters innovation, and increases customer value. The new marketplace's pace and changing nature have provided a competitive incentive for many businesses to integrate and reconcile their knowledge assets and resources to achieve long-term value (Lam et al., 2021). KM becomes one of the most intriguing and significant approaches to management in a hyper-competitive, complicated, unpredictable, and fast-changing environment (Obeidat et al., 2016; Subramaniam and

Youndt, 2005). Previous research studies maintain that knowledge is the most important organisational asset (Kengatharan, 2021; Lin and Lee, 2005). It positively affects gaining a competitive advantage and improving innovation, leading to superior performance (Andreeva and Kianto, 2012; Baró, 2008; Kamath et al., 2016; Shannak et al., 2012; Obeidat and Abdallah, 2014). Firm's designing KM practices are interned to offer process, strategy, and technology to augment ongoing organisational learning and performance. Consequently, this aids firms to leverage organisational innovation (Mardani et al., 2018; Carneiro, 2000).

The effective and efficient management of knowledge resources in firms concerning innovation has gained growing popularity among practitioners and researchers (Darroch, 2005). The nascent research on innovation and strategic management put knowledge, including application, acquisition, and sharing, as the focal point of interest (Kamath et al., 2016; Mardani et al., 2018; Kör and Maden, 2013). However, firms are ignorant of the actual KM implications. Intriguingly, knowledge grows into a salient asset that organisations can deploy to mitigate the intricacy of the innovation process to sustain their competitive advantage through the understating of what individuals know and how they use the knowledge in the organisations (Alegre et al., 2013; Obeidat et al., 2016). Moreover, knowledge has an intrinsic worth that needs to be managed appropriately, applied, developed, and utilised (Mardani et al., 2018). Generally, in emergent firms, the performance and effectiveness severely rely on how efficiently firms' knowledge is distributed among individuals and teams (Alavi and Leidner, 2001).

Owing to the exponential evolution in the amount of knowledge accessible to organisations, the intricacy of innovation has been amplified. In the present era individual's ability to intelligently deploy knowledge predicts the future (Carneiro, 2000). The past literature shows that knowledge is the salient wealth of organisations; however, they fail to capitalise on it (Mardani et al., 2018; Plessis, 2007). One of the notable reasons is that firms do not know how they utilise the knowledge. Innovation is severely relying on knowledge availability in organisations (Plessis, 2007). The explosion of richness and reach of knowledge needs to be considered and organised to enrich innovation effectiveness (Baró, 2008). As a result, innovative organisations require a robust KM system that focuses on the unique necessities of interactive knowledge and the knowledge dimensions (Carneiro, 2000). Organisations have to provide an environment of benevolence, liberty and safety whereby innovation can flourish. Forceful KM is vital in evoking innovation, and it too requires an atmosphere of benevolence, liberty and security if it is to act as the driver on which innovation can sail (Brand, 1998). Furthermore, for innovation to occur, a firm requires thoughtful individuals who are ready to manifest for the betterment of the firm and creative individuals who can transform creative ideas into products and services. Influential KM aids firms to eradicate such issues, (e.g., downsizing, turnover) which eventually facilitate innovative capacity (Brand, 1998). To foster effective innovation performance, firms need to develop novel knowledge and capitalise effectively and efficiently (Abou-Zeid and Cheng, 2004).

The relationship between KM and innovation is broadly recognised. Notwithstanding, the past literature clearly shows that researchers confront a severe challenge to conclude the link between KM and innovation (Mardani et al., 2018; Shaher and Ali, 2020). Similarly, Obeidat et al. (2016) and Shaher and Ali (2020) state that several researchers examined the influence of KM processes and organisational innovation separately. Researchers need to study the combined effect of KM and innovation. Further, empirical

work on KM and innovation is in infancy and findings are heterogeneous due to the mixed measurement approaches (Shujahat et al., 2018; Kör and Maden, 2013). Subramaniam and Youndt (2005) and Andreeva and Kianto (2011) state that an investigation of empirical findings reveals that evidence concerning KM and innovation is nascent, and the results show the complexity and lack of consistency. Hassan and Raziq (2019) postulate that several studies have reported that KM is the vital antecedent of firm innovation. Notwithstanding, no definite studies examined the relationship between these two concepts (Darroch and McNaughton, 2002).

In a nutshell, although many studies examined the effect of KM practices on organisational performance (Migdadi et al., 2018), firm survivability (Alnoor, 2020), and work engagement (Gupta, 2011), studies on KM practices and firm innovation have been far less focused in developing countries (Ode and Ayavoo, 2020). Most of the studies were conducted in developed countries. Since the culture and the business environment vary widely between developed and developing countries, the findings from one country cannot be applied in a different cultural context. More specifically, there is a bereft of such studies in Sri Lankan context. Thus, the present study focuses on the effect of KM practices on firm innovation in SMEs operating in Sri Lanka. The rest of the paper is organised as follows: Section 2 begins with the critical literature review that highlights the lacunae in the extant literature and resultant hypotheses are proposed. Section 3 provides the methods that include data collection, sample, and measures. Section 4 reports the results of the study and the hypotheses are tested. The discussion of the findings is presented in Section 5. The theoretical and practical implications are discussed in Section 6. Finally, the conclusion of the study is succinctly provided in Section 7.

2 Literature review and hypothesis development

Nowadays, the aggressive business environment whereby firms have encountered drastic vulnerabilities has altered the reality of firms (De Saa-Perez and Díaz-Díaz, 2010). As opined by Kamaşak and Bulutlar (2010), innovation and knowledge were recognised as critical assets for a long-term firm's success. These transformations have elicited KM and innovation as a facet of value creation (Howells et al., 2003). Nilakanta et al. (2006) highlighted that knowledge plays a dramatic role in the firm's competitiveness. Moreover, there is growing evidence that knowledge is a crucial facet of the innovation process (Darroch and McNaughton, 2002; Khan and Zaman, 2021; Lam et al., 2021; Zhao et al., 2022). Interestingly, Kamath et al. (2016) explored the effect of KM enablers (knowledge enabled culture, structure, technology, and human resources), on R&D innovation and the firm performance in manufacturing firms. It is extensively accredited that a firm's innovative ability is closely related to its intellectual capital and its capability to create and capitalise its knowledge resources (Subramaniam and Youndt, 2005). Moreover, organisational capital significantly predicts innovation (Kengatharan, 2021). Therefore, institutionalised knowledge helps to support its general knowledge and augments its innovation, which is garnered through firms' patents, databases, structures, and systems (Kengatharan, 2021; Rofiaty, 2019). KM capabilities include knowledge acquisition, conversion, and application (Gold et al., 2001). Over recent years, due to the omnipresence of KM, researchers and scholars have sought to investigate how KM practices evoke firm innovation (Lai and Lin, 2012; Johannessen, 2008; Xiong et al., 2021; Zhou et al., 2021). Wai Ling et al. (2009) found that to enhance innovation,

organisations have to focus on the acquisition, dissemination, and making use of the knowledge in all work domains during everyday operations.

2.1 Knowledge acquisition and innovation

Due to the dynamic, volatile business environments such as changing customer needs and trends, intense competition within industries, the evolution of sophisticated technologies, several researchers have admitted that the salient role of knowledge acquisition in enhancing organisational innovation process (Dahiyat and Al-Zu'bi, 2012; Jantunen, 2005). Knowledge acquisition is the foremost stage; for knowledge to be managed, it should be obtained in a relevant form – knowledge acquisition known as obtaining knowledge (Gold et al., 2001). Generally, knowledge acquisition includes search, identification, selection, collection, organisation and mapping knowledge (Pinho et al., 2012). Choo (2003) describes knowledge acquisition as the actions that evoke the organisational knowledge stock. Knowledge acquisition is the advancement process and creation of insights, skills, and collaborations (Tiwana, 2000). Knowledge acquisition takes place by recruiting new employees, fostering research and development centres devoted to choir new knowledge, purchasing another firm, outsourcing external knowledge, and being equipped with individuals who intend to learn new knowledge fast and possess the openness to absorb new skills (Choo, 2003). Bohorquez Lopez and Esteves (2013) asserted that knowledge acquisition could be facilitated using a firm's internal and external collaborations that could leverage innovation within organisations through excellent top management support positions of innovative individuals who solve problems creatively. Plessis (2007) and Xu et al. (2010) suggest that innovation performance in organisations is severely grounded on the firm's ability to open and expose several sources of external knowledge and information. Drucker (1993) found that innovation needs combined effort and understating in identifying and capitalising on new knowledge. Using a sample of 433 manufacturing firms Darroch and McNaughton (2002) studied the association between KM practices and innovation, and their findings show that knowledge acquisition facilitates the likelihood of effective firm innovation. Researchers have found that a firm establishes a wide-ranging network of collaborations and provisions; it is likely to have broader exposure to best practices and complementary knowledge (Li and Gao, 2021; Zahra and George, 2002). Consequently, it could evoke the knowledge acquisition process effective and efficient and employees' absorptive capabilities, therefore dramatically facilitating firm innovation (Gold et al., 2001; Li and Gao, 2021; Santos et al., 2021). Firms that organise interventions to absorb novel information, knowledge, noteworthy thoughts, and insights boost their willingness to create new know-how, products, and processes that affect organisational innovativeness. Effective application and integration of acquired knowledge are required for organisations to witness innovation performance. Thus, it can be hypothesised:

H₁ Knowledge acquisition has a positive effect on firm innovation.

2.2 Knowledge application and innovation

The application process is concerned with utilising the acquired knowledge (Bloem and Salimi, 2022; Darroch, 2005; Khan and Zaman, 2021). It is also known as utilisation of knowledge (Obeidat et al., 2016). Paradoxically, limited explorations have been

dedicated to the result of the effective application of knowledge (Bloem and Salimi, 2022; Gold et al., 2001; Khan and Zaman, 2021). Knowledge application is the destination of KM (Bloem and Salimi, 2022). Knowledge application refers to firms' processes that allow firms to deploy and foster knowledge to facilitate their functions and operations, launch new products, and create new knowledge assets in organisations (Boateng et al., 2015). Knowledge application focuses on utilising and applying knowledge to business processes or organisational functions such as products, services, and procedures (Iqbal et al., 2019). Knowledge application consists of storage, retrieval, application, contribution, and sharing (Almeida, 1996). Nonaka et al. (1996) posit that organisations can create knowledge; however, they should apply that effectively once it is made. The prolific knowledge application is shown in novel forms of value for the firms and their interested parties, encompassing novel thoughts, products, processes, and know-how (Baregheh et al., 2009). Davenport and Klahr (1998) asserted that effective knowledge application aids organisations enhance their efficiency, productivity and mitigating cost. Law and Gunasekaran (2009) found that organisational innovation is inherently related to coping with knowledge, using fundamental KM activities echoed in knowledge acquisition, integration, and application. Effective knowledge application enables firms can discover the source of competitive advantage using knowledge integration strategies to solve complex organisational problems. Several researchers have found that knowledge application positively relates to firm innovation (Ode and Ayavoo, 2020; Obeidat et al., 2016; Gold et al., 2001; Scarbrough, 2003). Mardani et al. (2018) posit that knowledge application does not merely have a direct positive association with performance; nonetheless, it also affects organisational innovation speed, quality, and quality linked to organisational performance. Using a sample of 293 service firms in Nigeria, Ode and Ayavoo (2020) found that KM practices significantly predict innovation; however, knowledge application has an utmost impact on firm innovation. A study conducted by Obeidat et al. (2016) using a sample of 216 Jordanian consulting firms found that knowledge application positively and significantly impacts firm innovation. Using data from 120 firms, Mardani et al. (2018) examined the quantitative relationship between KM, innovation, and firm performance. They found a positive association between knowledge application and organisational innovation. Thus, it can be hypothesised:

H₂ Knowledge application has a positive effect on firm innovation.

2.3 Knowledge sharing and innovation

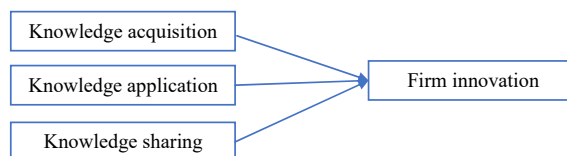
Due to the highly turbulent business environment, knowledge sharing (KS) is critical to a firm's success (Grant, 1996; Camelo-Ordaz et al., 2011). Knowledge sharing is an essential aspect of KM (Wang and Noe, 2010), and KS refers to the process in which people exclusively transmit each other's knowledge and collectively create new knowledge (Siakas et al., 2010). Van Den Hooff and de Ridder's (2004) define knowledge sharing as a process by which individuals reciprocally exchange their implicit and explicit knowledge to create new knowledge. The literature defines knowledge sharing as a process that allows the knowledge individuals possess and by groups to be disseminated to the firm's level; therefore, it can be exploited to advance new products, services, and processes (Van den Hooff and de Ridder, 2004; Hargadon and Sutton, 1997). Knowledge sharing should infuse everyday work and be rooted at the heart of the

firm's fundamental management processes. Effectively stimulating individuals to transmit valuable knowledge can enhance and sustain firms' competitive advantage (Akhavan and Mahdi Hosseini, 2016), and their findings manifested that, individual's enthusiasm to garner and donate knowledge can affect innovation capability. Importantly, studies have now grasped the attention of knowledge sharing for new knowledge creation and firm's innovation (Wu and Cavusgil, 2006). Knowledge sharing is a crucial subject to developing the innovation competence of firms (Sáenz et al., 2009), and it could be very supportive of improving knowledge creation and subsequent innovation. It is commonly presumed that the innovation process comprises a continuing chase of harnessing new and unique knowledge (Subramaniam and Youndt, 2005). Specifically, knowledge creation encompasses an ongoing process in which one concurs the individual limits and limitations executed by information and past learning by gleaning a novel context, a novel view of the world, and new knowledge (Bontis and Serenko, 2009). Therefore, knowledge sharing is vital to create new knowledge and produce innovation. Several authors have found a positive link between KM and firm innovation (Darroch and McNaughton, 2002; Huang and Li, 2009; Gold et al., 2001; Sáenz et al., 2009). Further, specific knowledge-sharing interventions might be beneficial to heighten knowledge creation and, consequently, innovation (Darroch and McNaughton, 2002; Mardani et al., 2018). Conversely, innovation is a vital factor for knowledge sharing both inside and between firms (Florén et al., 2014); firms are now becoming more transparent regarding the innovation activities they require corporations that permit them to acquire new knowledge that can be harnessed as input in the process of innovation. Kamaşak and Bulutlar (2010) in their study, they explored the effects of knowledge sharing and innovation. Further, knowledge sharing was tested in two forms, namely, knowledge donating and knowledge collecting. The findings revealed that knowledge collecting significantly affected innovation, whereas knowledge contributing did not affect innovation. A study conducted using a sample of 217 Finnish firms Jantunen (2005) found that knowledge sharing significantly predicts firm innovation capacity. Using a sample of 216 Jordanian consultancy firms, Obeidat et al. (2016) found a significant positive impact of KM practices, including knowledge sharing, on firm innovation. Using ad hoc questionnaires, Sáenz et al. (2009) aimed to examine the degree of impact of various knowledge-sharing systems on the firms' innovation capacity. Their findings show that knowledge sharing is a vital factor in facilitating a firm's innovation capacity. Most recently, seminal studies found that knowledge sharing promotes ambidextrous innovation (Zhang et al., 2022) and innovation performance of virtual teams (Hung et al., 2021). Thus, it can be hypothesised:

H₃ Knowledge sharing has a positive effect on firm innovation.

The research framework has been depicted in Figure 1.

Figure 1 Conceptual model (see online version for colours)



3 Methods

3.1 Data collection and sample

The present study employs a survey research strategy in a cross-sectional time horizon. The data were collected from SMEs in Sri Lanka. In developing countries, SMEs play a vital role in creating jobs, by the way, boosting economic development (Kengatharan, 2012). The basic nature of SMEs is the innovation that distinguishes them from other businesses. Therefore, the SMEs were chosen to explore the effect of KM practices and firm innovation. A self-reported questionnaire was developed to acquire the needed information. In the questionnaire, part I solicited subjects' background information, and part II dealt with KM practices and firm innovation. The subjects were selected using a purposive sampling method which allows the researcher to choose the most appropriate respondents with a phenomenon of interest (Etikan, 2016). The unit of analysis is firm-level where managers and owners in SMEs were selected. A total of 150 questionnaires were distributed. Of the returned 132 questionnaires, 14 were incomplete. The remaining 118 were used for further analysis, yielding a response rate of 67%.

3.2 Measures

KM practices were measured using a questionnaire adapted from Gold et al. (2001). The measure includes 13 questions with three dimensions: knowledge acquisition (4), knowledge application (5), and knowledge sharing (4). Sample items include 'My organisation has processes for generating new knowledge based on existing knowledge' (Knowledge acquisition); 'My organisation has processes for filtering knowledge' (knowledge application) and 'My organisation has a standardised reward system for sharing knowledge' (knowledge sharing). The measure shows high reliability and thus it can be used without any caveats: knowledge acquisition ($\alpha = 0.855$), knowledge application ($\alpha = 0.868$), and knowledge sharing ($\alpha = 0.750$). Firm innovation was measured using a nine-item scale (product, process, and administrative innovation) proposed by Jiménez-Jimenez et al. (2008). The Cronbach's alpha is 0.842 indicating high reliability of the instrument.

4 Results

Before testing the hypotheses, the reliability and validity of the model were assessed. PLS-SEM was used to test the hypothesis. The PLS-SEM includes two robust steps: the measurement model evaluation and the structural model evaluation. The measurement model evaluation covers the assessment of reliability and validity. The structural model evaluation covers the evaluation of the inner model using R^2 , f^2 , Q^2 , and path coefficients (Hair et al., 2020).

4.1 Measurement model evaluation

Cronbach's alpha and composite reliability (CR) are the two generic and classical approaches to assessing the model's internal consistency. In this study, Cronbach's alpha and CR values are well above the rule of thumb. Table 1 show that all the constructs

Cronbach's alpha, and CR are greater than the threshold value of 0.7 (Hair et al., 2020). PLS-SEM result further indicates a higher level of convergent validity: (see Table 1) AVE values are above the minimum threshold of 0.5 (Hair et al., 2019).

Table 1 Cronbach's alpha, composite reliability, average variance extracted (AVE)

	<i>Cronbach's alpha</i>	<i>rho_A</i>	<i>Composite reliability</i>	<i>Average variance extracted (AVE)</i>
Innovation	0.842	0.864	0.882	0.521
Knowledge acquisition	0.855	0.881	0.904	0.706
Knowledge application	0.868	0.918	0.899	0.640
Knowledge sharing	0.750	0.749	0.842	0.577

The discriminant validity of the model was assessed using Fornell-Larcker criterion and Heterotrait-Monotrait ratio (HTMT). According to Fornell-Larcker criterion, the square root of the AVEs for each construct is above the correlations with any other constructs (refer to Table 2 – the highest correlation is – 0.840) (Hair et al., 2019). As shown in Table 3, the HTMT values that fall between knowledge sharing and knowledge acquisition (0.549) and knowledge sharing and knowledge application (0.765) are less than the threshold of 0.85 (Hair et al., 2019). Thus, the model confirms the strong discriminate validity of the model.

Table 2 Fornell-Larcker criterion

	<i>Knowledge acquisition</i>	<i>Knowledge application</i>	<i>Knowledge sharing</i>	<i>Innovation</i>
Knowledge acquisition	0.840			
Knowledge application	0.587	0.800		
Knowledge sharing	0.447	0.734	0.760	
Innovation	0.542	0.781	0.796	0.722

Table 3 Heterotrait-monotrait ratio

	<i>Innovation</i>	<i>Knowledge acquisition</i>	<i>Knowledge application</i>
Knowledge acquisition	0.643		
Knowledge application	0.706	0.659	
Knowledge sharing	0.661	0.549	0.765

4.2 Structural model evaluation

Figure 2 shows that knowledge acquisition, application, and sharing explained 72.6% variance in firm innovation.

4.3 Predictive relevance of the model

In PLS-SEM, the predictive relevance of the model is denoted as Q^2 . The Q^2 value was calculated using a blindfolding procedure. According to Hair et al. (2014), the Q^2 values

should be greater than zero for specific endogenous latent variables. In this study, the Q^2 value is 0.370, greater than zero, indicating the model has predictive relevance (Table 4).

Figure 2 Measurement model result

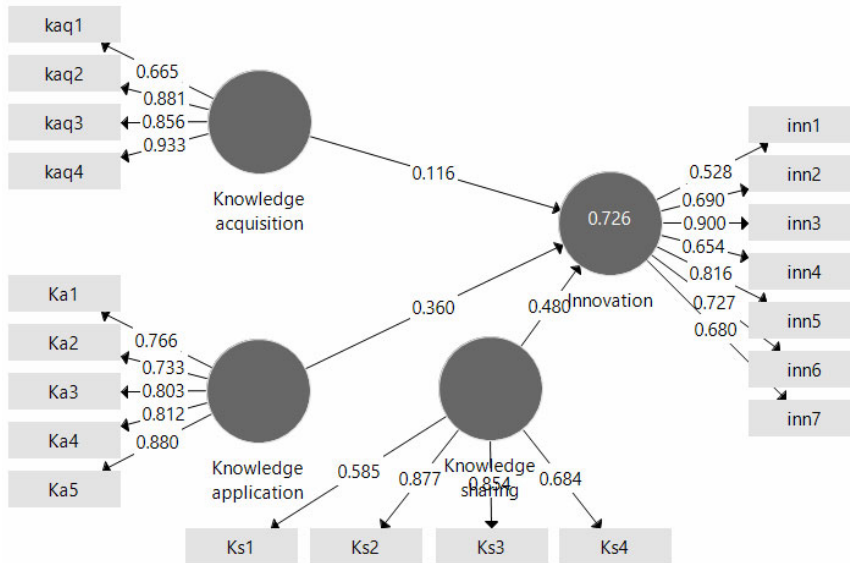


Table 4 Predictive relevance of the model

	<i>SSO</i>	<i>SSE</i>	$Q^2 (=1-SSE/SSO)$
Innovation	1,540.000	969.520	0.370
Knowledge acquisition	880.000	880.000	
Knowledge application	1,100.000	1,100.000	
Knowledge sharing	880.000	880.000	

Table 5 Path coefficients

	<i>Original sample (O)</i>	<i>Sample mean (M)</i>	<i>Standard deviation (STDEV)</i>	<i>T Statistics (O/STDEV)</i>	<i>P values</i>
Knowledge acquisition → Innovation	0.116	0.118	0.025	4.555	0.000
Knowledge application → Innovation	0.360	0.359	0.057	6.356	0.000
Knowledge sharing → Innovation	0.480	0.484	0.050	9.668	0.000

Hypotheses were tested using the bootstrapping procedure in SmartPLS. The results of the path coefficients are summarised in Table 5. Hypothesis (H_1) predicted that knowledge acquisition has a positive effect on firm innovation was supported. The path coefficient between knowledge acquisition and firm innovation are statistically significant ($\beta = 0.116$, $t = 4.555$, $p < 0.000$), indicating a positive effect of knowledge

acquisition on firm innovation. The value of f^2 0.032 indicates a small-medium-sized effect. Similarly, hypothesis (H₂) that knowledge application has a positive effect on firm innovation was also supported. The path coefficient is significant ($\beta = 0.360$, $t = 6.356$, $p < 0.000$) – the value of f^2 0.179 is indicating a large-sized effect. The result further showed a positive path coefficient between knowledge sharing and firm innovation ($\beta = 0.480$, $t = 9.668$, $p < 0.000$). Thus, the hypothesis (H₃) predicted that knowledge sharing has a positive effect on firm performance was supported. The value of f^2 0.388 shows a large-sized effect.

5 Discussion

In the present competitive landscape, organisations strongly believe that innovation is the salient source of competitive advantage, and there is an essential link between KM practices and a firm's innovation. Therefore, considerable attention has been given to date to understanding the relationship between KM and firm innovation. Notwithstanding, research on the link between KM and innovation, mainly in developing country contexts, is dearth, and it calls for empirical research to understand and validate those links. Within this context, this study sought to investigate the nexus between KM practices and innovation in Sri Lankan organisations. This study discloses significant empirical results that make an essential contribution to understanding whether KM practices influence firm innovation. As hypothesised, Hypothesis 1 stated that knowledge acquisition positively impacts firm innovation was supported. These findings are consistent with the earlier results (Darroch and McNaughton, 2002; Zahra and George, 2002; Gold et al., 2001). Hypothesis 2 predicted that knowledge application positively impacts firm innovation was supported. This result is in line with the previous studies (Obeidat et al., 2016; Mardani et al., 2018; Ode and Ayavoo, 2020). Hypothesis 3 foretold that knowledge sharing positively impacts firm innovation was also supported. Researchers have suggested that knowledge sharing is an essential prerequisite for innovation performance. In a similar vein, a firm must ensure that the knowledge acquired from various sources is disseminated among organisational members. Sharing knowledge enables firms to create and synthesise a new combination of knowledge which facilitates organisational innovation (Wu et al., 2006; Kamaşak and Bulutlar, 2010). The findings emphasise that organisations equipped with a robust KM capability can increase productivity, efficiency, quality, and innovation and eventually improve organisational success. The results show that the KM practices are a real lever of a firm's innovation performance. KM supports innovation through various ways like creating novel ideas and utilising the firm's intellectual power. Plessis (2007) posits that KM helps organisations create instruments, processes, and climate for tacit knowledge creation, and dissemination that plays an indispensable role in the innovation process. Moreover, KM can leverage collaboration. These collaborative links enable firms to absorb new knowledge and skills that are an effective way of innovation success.

6 Theoretical and practical implications

The findings of the present study make a substantial theoretical and practical contribution. The effect of KM practices on firm innovation has not been thoroughly explored in the past. Remarkably, the present study confirms the relationship in a diverse cultural setting, Sri Lanka. The study emphasises the importance of knowledge-based resources in sustaining a competitive environment. Knowledge acquisition, knowledge application, and knowledge sharing are pivotal that are unique resources of any organisations. Therefore, the current study contributes to strategic management, innovation management, and HRM literature in general. Precisely, the study supports two logics: the cognition-action logic and intention-action logic. While the cognition-action logic involves scanning of the external environment by seeking and distributing existing and new information, the intention-action logic involves acquiring and processing new knowledge.

From the practical perspectives, the study informs the importance of knowledge acquisition, its application, and sharing. Therefore, managers and owners of SMEs should design policies for promoting knowledge acquisition since it augments firm innovation. Therefore, organisation can facilitate employees to learn new skills through various means such as training and development, talent development programme, education, etc. Even though employees are knowledgeable, the knowledge becomes useless if not applied in organisations. Therefore, organisations should recognise and reward employees who are making unique contributions to the organisations. Similarly, organisation climate on knowledge sharing with other colleagues is paramount important. Many studies focused on the importance of knowledge sharing in SMEs. The earlier studies maintain that SMEs have distinguished characteristics, challenges, and obstacles in comparison with other types of enterprises (Sandhu and Naaranoja, 2009; Sartori et al., 2020). Consequently, SMEs adopt different knowledge-sharing arrangements from Multinational Corporations (MNCs) since SMEs are mostly dependent on the knowledge of their employees (Sandhu and Naaranoja, 2009). Therefore, SMEs should assess the knowledge-sharing proclivity of human resources in recruitment and selection. In the nutshell, the KM resources should be strategically managed in organisation for promoting innovative culture (Kamath et al., 2016).

7 Conclusions

The present study examined the relationship between KM practices and firm innovation. The findings show that KM practices viz., knowledge acquisition, knowledge application, and knowledge sharing significantly impact firm innovation. Moreover, this study suggests that KM could aid firms to glean tacit knowledge available internally and externally. The knowledge application ensures the knowledge accessibility for innovation success. KM assumes a dramatic role in eradicating the risk, uncertainties, and innovation costs. Importantly, the findings emphasises that organisations need an integrated approach towards KM, which facilitates creating a robust and unique corporate culture, so as to elevate innovation performance leading to sustained competitive advantage.

7.1 Limitations and future directions

This study has certain limitations that provide opportunities for future research. First, the data were marshalled in a cross-sectional horizon. Future researchers could, therefore, focus on adopting longitudinal research design to strengthen our findings. Future studies should focus on HRM practices in promoting the KM practices in strengthening innovation performance. Although the knowledge-sharing behaviour promotes innovative capabilities of the firm, the factors hampering such behaviour should also be explored. The present model explained around 72.6% variance in firm performance. Therefore, future research can employ mediating and moderating variables to better understand the relationship among them. Moreover, the study was chiefly conducted in the SME sector, and thus the findings may not be generalisable to other industries. To validate the findings, future research needs to focus on different samples across countries, sectors, and industries.

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