KNOWLEDGE MANAGEMENT PRACTICES AND INNOVATION: A CRITICAL LITERATURE REVIEW

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Abstract

Knowledge Management (KM) and innovation are considered as key sources for the continuous sustainable competitive advantage of an organization. This study aims at establishing the state-of-the-art of causal link between KM practices and organizational innovation. For this purpose, the study critically reviewed research published in KM and innovation domain over the last 10 years (i.e. 2008 and 2017). A systematic search strategy was employed to retrieve relevant empirical studies from the Web of Science (WoS). Thereafter, the authors applied a critical review strategy to analyse and synthesize the findings of studies which focused on theoretical frameworks, methodological approaches, key findings, gaps, limitations, and descriptive information. Findings disclosed that research in the recent past increased exponentially in this field. In terms of impact, KM actively contributes to different types of innovation associated with organizational processes, products, and services. However, it was also noted that there are several factors, e.g., organizational learning, corporate culture, IT application, organizational capabilities, knowledge-oriented human resource practices, reverse knowledge transfer, and dynamic capability, which interplay significantly between KM processes and innovation in a mediating role. From a methodological perspective, the scholars used mainly quantitative approaches in preference to qualitative or mixed methods. This is clearly an issue that needs to be addressed by the KM research community since qualitative and pragmatic studies tend to provide better explanatory and descriptive findings. This study contributes to the body of knowledge offering insights for academics and practitioners and suggests future research directions to strengthen the KM and innovation field.

1 Introduction

Knowledge as a strategic asset has gained much importance in contemporary organizations and has been considered as a key organizational resource (Alavi & Leidner, 2001; Davenport & Prusak, 1998). It provides a sustainable competitive advantage in the knowledge-intensive economy (Poonkothai, 2016) through effective utilization in organizational settings (King, 2009). Broadly, knowledge in an organization can be categorised into individual and organizational knowledge. Individual knowledge resides in an individual’s mind, and organizational knowledge is formed through interaction
between technologies, techniques, and people (Rowley, 2003). Nonaka (1994) classified organizational knowledge into explicit and tacit. Explicit knowledge is precise and codifiable, whilst tacit knowledge is more personal (Jones & Sallis, 2013). To get maximum benefit from knowledge resources, there is a need to manage them effectively (Davenport & Prusak, 1998).

The management of knowledge has become an important issue especially due to raised economic and market requirements, stakeholders’ demands and increasing competition (Wiig, 1997). Jashapara (2004) defined KM as “the effective learning processes associated with exploration, exploitation, and sharing of human knowledge (tacit and explicit) that use appropriate technology and cultural environments to enhance an organization’s intellectual capital and performance” (p.12). In the context of organizational practices, individuals use knowledge in a variety of activities such as acquiring, selecting, internalizing, using, generating, creating and externalizing (Holsapple & Joshi, 2002). These activities improve organizational performance and efficiency and result in KM processes that employ different tools and strategies (Wang & Noe, 2010).

The core value of KM is in managing individual and group knowledge and making it widely available as an organizational resource (Newell, Robertson, Scarbrough, & Swan, 2009). This can enable organizations to become actively responsive to market changes (Xue, 2017); to create efficient and effective working environments (Smith, 2001); to increase organizational performance (Hemmati & Hosseini, 2016); and to bring improvement and innovation to business functions and processes.

Innovation is a multi-stage process in which organizations transform ideas into new and improved products, services or processes (Francis & Bessant, 2005; Tohidi & Jabbar, 2012), helping them to differentiate themselves and to compete successfully in their market sectors (Baregheh, Rowley, & Sambrook, 2009). Innovation in organizations can also be implemented in very different ways according to different strategic thinking, for instance from radical, revolutionary or incremental perspectives (Xu, 2015).

There is a prevalent misconception in much of the KM literature, that knowledge creation is synonymous with innovation. As stated by Popadiuk and Choo (2006), innovation and knowledge creation are two concepts that have a strong but complex relationship which is not often examined. This misconception may have originated from the interpretation of the foundation theories of KM proposed by Nonaka and Takeuchi (1995) on organizational knowledge creation and a proposed link with innovation. According to their very influential propositions, an organization creates new knowledge through conversion and interaction between tacit and explicit knowledge, through processes of socialization, externalization, combination and internalization. However, explanatory, exploratory and descriptive knowledge can be created about organizational processes without resulting in innovation. In fact, if newly created knowledge is not developed and transformed into new or better products, simpler or more efficient
processes or new services, then it should not be classified as an innovation (Popadiuk & Choo, 2006).

Research shows that there is a close relationship between KM and innovation in organizations (Plessis, 2007) and recently there has been an increase in interest in exploring the specific roles of KM in promoting, enabling and sustaining innovation (Lee, 2016). Both KM and innovation are considered to be key factors in maintaining and sustaining competitive advantage (Bashir, Nunes, & Russell, 2008; Nonaka & Takeuchi, 1995; Tsai, 2016). The combined effects of KM and innovation have been studied in various economic sectors, including the business sector (Cerchione & Esposito, 2017; Lopes, Scavarda, Hofmeister, Thomé, & Vaccaro, 2017; Chaghoshi & Amini, 2017; Jyoti & Rani, 2017); the public sector (Moos, Wagner, Beimborn, & Weitzel, 2011); the health and medical sector (Noordin & Karim, 2015); and the educational sector (Draghici, Baban, Gogan, & Ivascu, 2015). Many of these studies reveal an increasing interest in intermediary factors which support the role of KM in enabling innovation rather than direct causal ones, such as levels of intellectual capital (Hussinki, Ritala, Vanhala, & Kianto, 2017), management approaches (Pawlowsky & Schmid, 2012), corporate cultures (Lin, Ho, & Lu, 2014), or organizational learning capacity (Liao & Wu, 2010).

Keeping in view the close relationship between KM and innovation, and the increasing importance of the latter in organizational competition and survival, the study reported in this paper aimed at establishing the status of research addressing the causal link between KM practices and organizational innovation. The research design for the study was based on a critical review approach which enabled an in-depth understanding of this very topical phenomenon.

1.1 Aim of the study
This paper applies a critical lens to existing research with the aim of acquiring an in-depth understanding of it, and of providing clear directions for future studies in KM and innovation. To achieve the study’s aim, the following research questions were posed:

1.2 Research questions
RQ1: What is research trend in KM and innovation research?
RQ2: Does KM influence innovation? If so, how?
   RQ2a: Which KM processes do lead to innovation?
   RQ2b: Which factors do affect the relationship between KM processes and innovation?
   RQ2c: What is the impact of innovation as an outcome of KM in organizations?
RQ3: Which methods are adopted in KM and innovation research?
RQ4: What are the limitations and gaps in KM and innovation research?
2 Research Design

This study adopted a two-steps strategy: a systematic extraction of research studies was followed by the critical analysis of the selected studies.

2.1 Systematic search strategy

In their article on critical literature review, Jessen and Lacey (2006) recommend that researchers should be explicit about their search criteria so that readers can judge the scope of their review. When searching studies for this critical review, a systematic strategy was adopted as suggested by Nunes, McPherson, Annansingh, Bashir, and Patterson (2009). The review process began with the selection of keywords and search queries based on a preliminary exploration of the KM and innovation landscape. This strategy provides a systematic and transparent means of gathering, synthesizing and assessing the findings of studies. Nunes, Kanwal, and Arif (2017) and Sarka and Ipsen (2017) have successfully used this type of approach to investigate phenomena in the KM domain.

2.1.1 Selection of sources

As KM is a multidisciplinary research area, this study considered empirical studies published in different journals covering all the disciplines. The WoS was chosen for selecting relevant studies. According to Jesson, Matheson, and Lacey (2011), when undertaking a critical literature review, researchers should access all knowledge in all journals, regardless of impact status. There might be good papers in low-ranked journals, which did not pass the strict criteria for inclusion in top journals. So, we decided to consider all journals indexed in the WoS irrespective of impact factor. Since this study is aimed at critically reviewing relevant studies and avoiding duplication, only the one database was selected (Dwivedi, Venkitachalam, Sharif, Al-Karaghouli, & Weerakkody, 2011).

The first step in the extraction process was the identification of keywords and production of search strings. Two keywords, “knowledge management” and “innovation”, were selected to frame the following three strings:

1. Search String: in-title: “knowledge management” AND “innovation”
2. Search String: in-title: “knowledge management process” AND “innovation”

2.1.2 Inclusion and exclusion criteria and selection of relevant studies

In the second step, inclusion and exclusion criteria were developed. The purpose of these criteria was to ensure that all the selected studies were related to the study’s research
questions and specifically addressed them. The process of selecting and retrieving relevant records commenced by conducting systematic online searches in the Web of Science and covered the decade from 2008-2017. Empirical studies published in journals and conference proceedings written in English were included, whereas review papers, editorials, guest reviews, book chapters, and articles whose content was not relevant were excluded. To complete this process, the two co-authors individually retrieved all potentially relevant records, then both lists were compared to ensure that the same records were selected. The co-authors were in agreement and had selected the same records.

In response to the three systematic searches, 428 studies were retrieved from the database and checked against the pre-determined eligibility criteria. Finally, after scrutinizing titles, abstracts, duplicated articles, and eliminating articles where the full-text was not available, 58 relevant research studies were retrieved (Figure I).

2.2 Critical review strategy

A critical review should be original, insightful and analytical rather than a systematic attempt to gather, elaborate, and synthesize literature (Jesson & Lacey, 2006). Specifically, a critical review should describe the current state of knowledge in the subject area. It should synthesize findings, indicating how research fits into a wider context. It should also identify strengths, limitations, omissions, and biases. This study was aimed at an in-depth understanding of existing research in the KM and innovation landscape, and at providing clear future research directions. So, keeping these guidelines in view, the study used a critical lens to analyse theoretical frameworks, methodological approaches, key findings, gaps and limitations, and descriptive information from 58 empirical studies to investigate current trends, and the relationship between KM and innovation, methodological and theoretical approaches, and gaps in KM and innovation research. Data extraction and analysis were completed using Microsoft Excel.
3 Research Findings

3.1 Research trend

Figure II shows the trend in KM and innovation research (RQ1) published during the past decade. Overall, analysis of the data revealed that research has significantly increased in the second half of the last decade. However, this increase seems to have stabilized from 2008 to 2013 except in 2012 in which 5 studies were published. In the last four years, 2014 - 2017, an increasing trend is quite visible, and especially, a sharp growth in 2017 could be attributed.
3.2 KM and innovation

To answer RQ2, RQ2a, RQ2b, and RQ2c, the studies were analysed to explore the impact of KM practices resulting in innovation. This section is divided into four sub-sections; (i) impact of KM on innovation, (ii) KM as an enabler for innovation, (iii) factors affecting the relationship between KM and innovation, and (iv) impact of innovation enabled by KM in organizations.

3.2.1 Impact of KM on innovation

Research suggests that KM can be effective in bringing innovation to different organizational functions (Tsai, 2016; Gloet & Samson, 2013). The analysis reveals that KM practices lead to innovation in entire enterprises, e.g., manufacturing firms (Martinez-Conesa, Soto-Acosta & Carayannis 2017), higher education (Paez-Logreira, Zamora-Musa & Velez-Zapata 2016; Islam, Agarwal, & Ikeda, 2015), financial firms (Uddin, Fan & Das, 2016), hospitals (Tang, 2017), software companies (Hemmati & Hosseini, 2016), research and development firms (Tieng, Jeenanunta, Rittippant, Chongpisal, & Hamada, 2016), small and medium-sized enterprises (SMEs) (Guzmán, Serna & de Lema (2011); Trejo, Gutiérrez & Guzman, 2106) etc., in numerous ways. KM can act as a platform for employees to initiate innovative practices in their tasks (Bai & Yu, 2017). Several factors such as ICT-supported operations, inter-departmental connectedness, commitment-based human resources practices (Martinez-Conesa et al., 2017), and leadership behaviour (Tang, 2017) impact on KM’s contribution to innovation.
It has also been noted that KM alone is not sufficient to leverage innovation in organizations. Other factors play a role, such as transformational leadership, organizational learning (Uddin et al., 2016), collaboration with customers (Fidel, Cervera & Schlesinger, 2016), and IT application in combination with KM (Hemmati & Hosseini, 2016; Garcia-Álvarez, 2015). Studies also reported that innovation in organizations can impact in various ways, including increased business performance (Taherparvar, Esmaeilpour, & Dostar, 2014), organizational sustainability (Lopes et al., 2017), project performance, and achieving project benefits (Hemmati & Hosseini, 2016) etc. It was also revealed that innovative practices are not only linked to business organizations, but higher education institutions can also benefit from KM practices for bringing innovation to their work activities, teaching, research and services (Salleh & Wahib, 2017), contributing to improved institutional performance (Bai & Yu, 2017).

3.2.2 KM as an enabler for innovation

For RQ2a, studies were explored to identify the impact of KM processes on innovation. A sample of 22 out of the 58 empirical studies explicitly mentioned that KM processes bring different types of innovation, such as administrative, technical, process, product, marketing, etc., in entire enterprises. However, from the literature reviewed it was found that, rather than having a causal relationship with innovation, KM plays an enabling role within a process that involves many other factors. Table I summarizes findings of the KM processes as enablers for distinct innovation types. Different studies have different perspectives and result in the identification of distinct KM processes as enablers.
3.2.3 Factors affecting the relationship between KM processes and innovation

The findings of the 20 studies indicated that KM also brings innovation with the help of mediating factors (Table II). To answer RQ2b, the studies were explored to identify those factors which contribute towards innovation in multiple capacities; as a latent variable in mediating and/or in moderating roles (Bai & Yu, 2017; Uddin et al., 2016). The analysis of the findings shows that different factors act as mediating variables and enhance the impact of KM on innovation in different enterprises. However, in some cases, KM itself acts as a mediating variable in stimulating innovation.

### Table I. KM Processes as enablers of Innovation

<table>
<thead>
<tr>
<th>#</th>
<th>Author</th>
<th>KM Processes</th>
<th>Process, Marketing, and Organizational Innovation</th>
<th>Contingency</th>
<th>Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mighndt, Frizl, Youif, Almeister, &amp; Hasil (2017)</td>
<td>VM</td>
<td>VM</td>
<td>Vietnamese manufacturing and service organizations</td>
<td>Product, marketing, and organizational innovation</td>
</tr>
<tr>
<td>2</td>
<td>Chagares &amp; Amin (2017)</td>
<td>KM</td>
<td>KM</td>
<td>Khmer small steel supply chain</td>
<td>Product, marketing, and organizational innovation</td>
</tr>
<tr>
<td>3</td>
<td>Våtlyram, Heilandner, &amp; Vasili (2017)</td>
<td>KM</td>
<td>KM</td>
<td>Finnish SMEs</td>
<td>Open innovation</td>
</tr>
<tr>
<td>4</td>
<td>Cong, Rui, &amp; Wu (2017)</td>
<td>KM</td>
<td>KM</td>
<td>Chinese SMEs</td>
<td>Technological innovation</td>
</tr>
<tr>
<td>5</td>
<td>Obersad, Al-Suradi, Moei, &amp; Tariq (2016)</td>
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<td>KM</td>
<td>Jordanian enterprises and consulting firms</td>
<td>Innovation</td>
</tr>
<tr>
<td>6</td>
<td>Sepahvand &amp; Mohammadi (2015)</td>
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<td>KM</td>
<td>Iranian sport employees</td>
<td>Innovation</td>
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<td>7</td>
<td>Lee, Luek, &amp; Ou (2012)</td>
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<td>KM</td>
<td>Malaysian manufacturing firms</td>
<td>Technological innovation</td>
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<tr>
<td>8</td>
<td>Mahbub, Mumme, &amp; Nury (2012)</td>
<td>KM</td>
<td>KM</td>
<td>Ugandan Paranormal organizations</td>
<td>Structural and Process innovation</td>
</tr>
<tr>
<td>9</td>
<td>Li &amp; Lin (2012)</td>
<td>KM</td>
<td>KM</td>
<td>Taiwanese Manufacturing firms</td>
<td>Flow innovation, product, and manufacturing innovation</td>
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<tr>
<td>10</td>
<td>Pawlowski &amp; Smad (2012)</td>
<td>KM</td>
<td>KM</td>
<td>German corporations</td>
<td>Technology, flow, product, and manufacturing innovation</td>
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<tr>
<td>11</td>
<td>Liu, Che, &amp; Ting (2012)</td>
<td>KM</td>
<td>KM</td>
<td>Taiwan High-tech firms</td>
<td>Innovation</td>
</tr>
<tr>
<td>12</td>
<td>Ekrem &amp; Hamid (2011)</td>
<td>KM</td>
<td>KM</td>
<td>Turkish Textile Sector</td>
<td>Innovation</td>
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<tr>
<td>13</td>
<td>Baidar al et al. (2009)</td>
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<td>KM</td>
<td>UK SMEs in energy sector</td>
<td>Innovation</td>
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<td>14</td>
<td>Wu &amp; Xie (2008)</td>
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<td>Chinese software firms</td>
<td>Innovation</td>
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<td>15</td>
<td>Guerin et al. (2012)</td>
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<td>KM</td>
<td>Mexican manufacturing SMEs</td>
<td>Products, process, and management systems innovation</td>
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<td>KM</td>
<td>Chinese innovative firms</td>
<td>Knowledge innovation</td>
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<td>20</td>
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<td>KM</td>
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<tr>
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<td>Pune &amp; Ko (2016)</td>
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<td>KM</td>
<td>Turkish industrial enterprises</td>
<td>Administrative and technical innovation</td>
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<tr>
<td>22</td>
<td>Salih &amp; Wadh (2017)</td>
<td>KM</td>
<td>KM</td>
<td>Malaysian HEIs</td>
<td>Organizational performance</td>
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</tbody>
</table>

Notes: KA: Knowledge acquisition; KC: Knowledge creation; KST: Knowledge storage; KS: Knowledge sharing; KAP: Knowledge application; KI: Knowledge integration; KU: Knowledge utilization; KAR: Knowledge absorption; KO: Knowledge organization; KD: Knowledge diffusion; KED: Knowledge identification; KMD: Knowledge modification; KPF: Knowledge protection; KOP: Knowledge organization; KL: Knowledge orientation; KDP: Knowledge development

3.2.3 Factors affecting the relationship between KM processes and innovation
Table II. KM and Innovation: The Role of Mediators

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Mediating variable</th>
<th>Independent</th>
<th>Context</th>
<th>Reference</th>
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<tbody>
<tr>
<td></td>
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<td>internal integration</td>
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<td>Organizational Innovation</td>
<td>Organizational</td>
<td>KM</td>
<td>Human agricultural bank</td>
<td>Noun, Gheewala, &amp; Schmit (2017)</td>
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<td>learning</td>
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<td></td>
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<td>RM</td>
<td>Taiwanese manufacturing</td>
<td>Tai et al. (2015)</td>
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<td></td>
<td>Organizational</td>
<td>RM</td>
<td>Taiwanese financial</td>
<td>Lin &amp; Yu (2010)</td>
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<td>Learning</td>
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<td>Taiwanese software</td>
<td>Ho &amp; Hsu (2017)</td>
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<td>development companies</td>
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<td>capabilities</td>
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<td>Service innovation in</td>
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<td>Knowledge capture, knowledge creation, knowledge</td>
<td>Worldwide literature</td>
<td>Hsu et al. (2015)</td>
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<td>Alliance</td>
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<td>sharing and transfer</td>
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<td></td>
<td>Knowledge acquisition</td>
<td>Information Capabilities, Relationship qualities</td>
<td>Taiwanese financial</td>
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<td>Spanish technology</td>
<td>Donate &amp; Guifamakis (2015)</td>
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<td>RM</td>
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<td>Innovation</td>
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<td>emotional quotient and spiritual quotient</td>
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<td></td>
<td>Reverse knowledge</td>
<td>Multi-collator, internal social capital, external</td>
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<td>Fuentes-Jimenez, Martinez-Costa,</td>
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<td>Manufacturing innovation</td>
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<td>KM</td>
<td>Human resource</td>
<td>Akbariyeh &amp; Seddigh (2017)</td>
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<td></td>
<td>capability</td>
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<td>experts</td>
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</table>

The analysis also revealed that KM has a positive role, not only as a mediating factor but also as a moderating one. In a study based on a sample of 607 Chinese firms showed that the positive relationship between intra-firm knowledge sharing and a firm’s innovation is mediated by knowledge application. Intra-firm knowledge sharing also facilitates knowledge application, and entrepreneurial orientation positively moderates this relationship (Li et al., 2009).

3.2.4 Impact of innovation enabled by KM in organizations

This study also investigated the impact of innovation enabled by KM in organizations (RQ2c). Findings indicated that innovation can impact organizations in different ways. In the case of SMEs for example, innovative activities mediate the relationship between KM and business performance of organizations (Aboelmaged, 2014; Byukusenge & Munene, 2017). In the manufacturing and service industries, performance can be enhanced by implementing KM practices through the mediation of innovation (Migdadi et al., 2017). In the banking sector, an innovation capability acts as a mediator to enhance business performance as the result of customer KM (Taherparvar et al., 2014). It also plays a positive role in new product development (Akbariyeh & Seddigh, 2017; Xu, 2015).
3.3 Research methods - KM and innovation research

Figure III provides an overview of the methodological approaches adopted by the selected studies (RQ3). Fifty (86.2%) of the sample papers were solely quantitative, employing questionnaire-based surveys as the only data collection technique. Six (10.3%) studies reported mixed methods using interviews, structured and unstructured questionnaires. Only two (3.4%) out of the 58 studies used a qualitative approach, employed case study methodology using a semi-structured interview, observations and documents analysis. Overall, therefore, quantitative studies were found to dominate, but most of the quantitative studies relied on small samples selected through convenient sampling, making them unreliable to generalize the studies findings.

3.4 Limitations and gaps in KM and innovation research

The authors reviewed all the 58 studies to identify limitations and research gaps (RQ 4). From the findings, it has been identified that most of the studies (50; 86.2%) adopted quantitative approaches using questionnaires to collect data from a single informant designated as manager, executive, chief executive etc. Many of the quantitative studies were conducted over a limited time period, cross-sectional surveys, using convenient sampling techniques, and they also reported a low response rate (Taherparvar et al., 2014; Ayoub et al., 2017). So, a small sample response from informants might not present a representative picture of the phenomena studied. Moreover, innovation and organizational performance were measured through self-reported responses, and there was no analysis of organizational documents, e.g., financial reports, rating indexes etc. It is risky to generalise from the results of such studies (Hemmati & Hosseini, 2016; Väyrynen et al., 2017). Also, biases may occur if responses are provided by a single representative of the sample firms (Lee et al., 2013; Aboelmaged, 2014). Besides these, quantitative studies rely on questionnaire only and lack in using multiple-source data-collection approach (Pawlowsky & Schmid, 2012) as well as qualitative and mixed methods approaches were used in limited studies (Islam, Agarwal & Ikeda 2017;
Hemmati & Hosseini, 2016).

Research also reported that studies employing theoretical models ignored some important factors considered crucial to encouraging innovation through leveraging KM. Such factors included organizational citizenship behaviour, organizational structure, demographic characteristics of employees (Nouri et al., 2017), organizational culture, leadership and strategy (Martinez-Conesa et al., 2017), absorptive capacity (Ashok, Narula & Martinez-Noya, 2016) etc. Furthermore, within the current body of knowledge, some topics have received limited attention and need further investigation. For example, only three studies reported KM and open innovation (Väyrynen et al., 2017; Martinez-Conesa et al., 2017). According to Lopes et al. (2017), open innovation plays an important role in leveraging KM as a strategic asset that promotes sustainable innovations and influences organizational sustainability. On the other hand, a vast majority of the reviewed studies (54; 93%) addressed only business enterprises and ignored the higher education sector; two studies investigated KM and innovation in library services (Islam et al., 2017; Islam et al., 2015) while the other two investigated KM and innovation from the perspective of Chinese and Malaysian universities (Salleh & Wahib, 2017; He, 2008).

In view of the limitations and research gaps indicated in the reviewed KM and innovation research, this critical review offers the following recommendations for future research:

- Research has focused pre-dominantly on a positivist paradigm. Researchers have tended not to adopt interpretivist and pragmatic paradigms when investigating the KM and innovation landscape. Rather than reporting findings based on self-reported quantitative data, qualitative and particularly pragmatic approaches should be considered to gain deeper understanding across entire enterprises.

- The majority of the quantitative studies were found to be limited in scope and were completed in a short time period using only questionnaires as their data collection technique. So, it is suggested that longitudinal studies should be conducted, (Aboelmaged, 2014) rather than concentrating on cross-sectional surveys based on self-reported data collected from a few respondents over a limited time period. Data mining technology may also be adopted instead of questionnaires (Bai & Yu, 2017).

- Business organizations cannot survive in competitive markets alone, but require collaborative networks, both internal and external. However, researchers made little effort to investigate the relationship between KM and open innovation. Thus, there is an obvious need to conduct research which investigates the interplay between KM and innovation (Väyrynen et al., 2017).

- According to the data set selected for this study, academics and scholars made little effort to explore KM and innovation benefits in the higher education sector. Since KM helps all sectors to bring innovation to research and services, researchers should investigate the phenomenon in higher education. Additionally, it is important to explore how different KM processes could contribute to service innovation in academic libraries, thereby helping to meet the information needs of prospective users in an academic environment.
4 Conclusion

This critical review explored research trends related to a potential causal link between KM practices and organizational innovation, as well as methodological limitations and research gaps in KM and innovation research. For this purpose, the study critically reviewed research published in KM and innovation over the last 10 years. We used a two-steps strategy; the systematic extraction of research studies was followed by a critical analysis of the selected studies.

The findings reported a recent increase in research in the field. Although the initial assumption that guided the study focused on a causal link, the findings show that the process of innovation is complex and may have different enabling factors, some of which are KM processes. It may not be possible to state absolutely that KM directly causes innovation, but it was found that KM processes enable and contribute to this complex process. Although KM impacted positively on innovation and improved organizational performance in enterprises, researchers developing theoretical frameworks should also consider factors that mediate between KM processes and innovation. Moreover, rather than seeing KM and innovation research through a single theoretical lens, a pragmatic approach, which combines the strengths of both positivist and interpretivist methodologies, might help to improve the situation. In addition, identifying gaps in theoretical and methodological approaches, this study also found that KM plays an important role in all sectors of an economy, but that the higher education sector has been neglected in research. Specifically, this study is beneficial to scholars interested in building upon and expanding current theoretical and empirical studies in KM and innovation. From a practitioner perspective, this study offers insights to managers that will help in distinguishing the different types of KM processes and the ways in which they can help to pave a way towards innovation.

5 References


