Knowledge management capabilities and organizational outcomes: contemporary literature and future directions

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Received 5 December 2020
Revised 14 May 2021
24 June 2021
Accepted 28 June 2021

Abstract

Purpose – The purpose of this systematic review is to summarize the possible organizational outcomes related to knowledge management capabilities (KMCs). It aims at offering the modern-day dynamic organizations a path, through which they can utilize KMC at hand for gaining competitive advantage and positive organizational outcomes. The review is based on previous studies in the field of knowledge management and explains how KMCs are associated with various organizational outcomes.

Design/methodology/approach – A systematic approach was utilized to collect, examine, interpret and synthesize researches regarding KMCs and their usefulness for various organizational outcomes. The meta-synthesis method was adopted to review 106 research papers after careful selection.

Findings – It was evident from this integrated review that KMCs help in promoting organizational effectiveness, innovative ability, organizational change, value creation, competitive advantage, organizational learning and performance. Furthermore, the current review suggests research avenues and knowledge gaps in current literature to provide future researchers unique research opportunities.

Originality/value – The review revealed a profound opinion that organizations have to develop an optimal mix of KMCs to achieve better organizational outcomes. The study identified how KMCs set a basis and build positive support to enhance the key organizational outcomes such as organizational effectiveness, innovative ability, organizational change, value creation, competitive advantage, organizational learning and performance. However, cooperation bias is one of the most considerable limitations in research studies included in this systematic literature review.

Keywords Knowledge management, Knowledge management capabilities, Organizational outcomes, Systematic review, Meta synthesis

Paper type General review

Introduction

Knowledge management capabilities (KMCs) are described as an organizational system to create, enhance and share knowledge within the work settings (Ferraris *et al.*, 2017; Rafi *et al.*, 2021). Several research studies have highlighted the importance of KMCs to enhance organizational performance, effectiveness and success (Ferraris *et al.*, 2017; Cohen and Olsen, 2015; Hislop *et al.*, 2018; Rafi *et al.*, 2021; Shaqrah and Alzighaibi, 2021). According to Chiu and Chen (2016), KMCs are the combined form of KM infrastructure capability (KMIC) and KM

Kybernetes
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0368-492X
DOI 10.1108/K-12-2020-0840

process capability (KMPC). Many scholars have demonstrated that KMIC is essential to create and uphold generic capabilities that can be enhanced and shared with organizational functions and activities (Chiu and Chen, 2016; Hislop *et al.*, 2018; Karltun *et al.*, 2020). KMPC includes various organizational capabilities that help create and share tacit knowledge, concepts and their justifications and enhance cross-level knowledge sharing (Imran *et al.*, 2018; Teixeira *et al.*, 2019). Furthermore, Gold *et al.* (2001) summarized that technology, structure and culture are the predictors of KMIC. They described that knowledge acquisition, conversion, protection and application are the antecedents of KMPC.

The capability perspective of KM has focused on highlighting the importance of KMCs to address various organization-related critical issues such as problem-solving, creativity, innovation, socialization, strategy development and execution, competitive advantage, knowledge structuring and mapping, efficient processes, organizational memory and performance triggers (Attia and Salama, 2018; Balasubramanian *et al.*, 2019; Chuang, 2004; Martinez-Conesa *et al.*, 2017; Giampaoli *et al.*, 2017). This study presents a systematic review of the literature and addresses practical questions such as "how KMCs are helpful for organizational well-being" and "why we bear costs in building such capabilities." We used an integrative approach by utilizing existing literature since the inception of the knowledge management discipline to date.

Formally, KM discipline emerged when Nonaka (1994) presented the dynamic theory of knowledge creation and highlighted the importance of knowledge in organizational dynamics. Moreover, in the late 1990s, contemporary studies were undertaken to explain the fundamental concepts of KM. For example, KM and its related construct's definitions, issues and challenges, knowledge creation, innovation, strategy development, knowledge workers, intellectual assets, knowledge sharing issues, knowledge economy and organizational performance (Alavi and Leidner, 1999; Blackler, 1995; Davenport and Prusak, 1998; Demarest, 1997; Drew, 1997; Gupta *et al.*, 2000; Hendriks, 1999; Mårtensson, 2000; Nonaka and Nishiguchi, 2000; Tyagi *et al.*, 2017). Afterward, Nonaka *et al.* (2001) made a vibrant addition to the body of knowledge, known as the SECI (socialization, externalization, combination, internalization) model. The advent and rise of the SECI model have proved to be a paradigm shift related to KM for future studies. Meanwhile, Gold *et al.* (2001) integrated numerous capabilities and formed two distinct capabilities: KMIC and KMPC. Their research proposed future research avenues about the implications of KMCs in organizations. Some famous researchers such as Gold *et al.* (2001), Chang and Chuang (2011) and Zaied (2012) emphasized KMCs and their role in enhancing organizational performance and success.

In the existing literature, there are different types of reviews on KM and its connection to diverse organizational elements (Blackler, 1995; Chen *et al.*, 2012; Mårtensson, 2000; Singh *et al.*, 2006; Zack *et al.*, 2009), but no review exists yet, with respect to KMCs. Based on the knowledge-based view (KBV), KMCs are the basic building blocks of KM and need to be further investigated in the context of diverse organizational outcomes. Recent literature on KMCs also highlighted the importance of these capabilities to various organizational outcomes (Abualoush *et al.*, 2018; Ali and Anwar, 2021; Hock-Doepgen *et al.*, 2020; Obitade, 2019; Qandah *et al.*, 2020; Rafi *et al.*, 2021; Shaqrah and Alzighaibi, 2021). This paper emphasizes on the inner facets of KMCs and their link to different success parameters, based on the existing literature. The key objective of an understudied systematic review is to highlight what has been done in this area and what can be done in future. There are four explicit objectives of the current review. The first objective is to thoroughly gather, scrutinizing, summarizing and synthesizing the existing literature on KMCs and study their role in improving organizational outcomes. The next objective is to broadly explicate the accurateness and value of all experimental results of pertinent studies. The third objective is to offer rich descriptions and grounded substantiation of how organizational practitioners and knowledge managers can use an optimal mix of KMCs to improve various organizational

outcomes. The final objective to propose existing research gaps that gain the attention of the researchers in the future.

We selected a systematic process of conducting a review based on existing research to achieve the defined objectives that are in line with previous studies (Denyer and Neely, 2004; Pittaway *et al.*, 2004; Ahmed *et al.*, 2018). The study availed the systematic review methods used in other well-known KM studies (Leseure *et al.*, 2004; Tranfield *et al.*, 2003; Asrar-ul-Haq and Anwar, 2016; Natalicchio *et al.*, 2017). In the start, authors have taken into consideration various theoretical and conceptual researches on KMCs but afterward narrowed these down to 106 papers that were more relevant.

Research protocols

The decision of conducting a literature review is based on various protocols that must be fulfilled to reach a conclusive outcome, either in the form of synthesis or analysis. The review that encompasses all relevant studies from the contemporary literature that results from repetitive steps is categorized as a systematic literature review (Kitchenham, 2007). Further, Tranfield *et al.* (2003) also worked on parameters of conducting a literature review based on the systematic procedure that contains all relevant literature from the existing studies in a single study. Furthermore, the systematic review contains acquiring, analyzing and interpreting all information obtained from all pertinent studies either automatically or by manual search (Asrar-ul-Haq and Anwar, 2016). The strategies and procedures opted to get relevant information for systematic review are the prerequisite for conducting an initial search to the final stage process (detailed parameters are explained in Table 1). This review adopted a systematic procedure to obtained already conducted researches on KMCs and suggests what can be done in the future. For this systematic review, various digital resources were taken into consideration for obtaining maximum data on underlying concepts. These digital resources comprise Google Scholar, EThOS, ProQuest, Emerald, Jstor, ScienceDirect and Wiley online libraries. The authors only considered journals that are indexed in the Social Sciences Citation Index, Emerging Source Citation Index and Scopus index. The in-depth methodology adopted in this systematic review is depicted in Figure 1 and explained as under:

Identification of research studies

In order to obtain maximum research papers about KMCs, we conducted various searches. Knowledge management capabilities are the main keyword used for conducting relevant searches, and further searches contain its combination with organizational outcomes. The

The rationale of inclusion and exclusion	The logical grounds should be used to include and exclude research papers for conducting the contemporary literature-based reviews (Tranfield *et al.*, 2003). These parameters enable a review as transparent and purposeful
Precision and coherence	Based on guidelines provided by Denyer and Neely (2004), precision and coherence are an integral part of a systematic review that is used for transparent data collection, which sets the basis of readers' attention
Focus and equality	Chen *et al.* (2012) proposed that a systematic review should consider all papers on an equal basis and also done a focused-based search considering research questions
Approachability and broad coverage	The research papers considered for systematic review are based on broad coverage of the topic since inception to date that is well-regarded criterion for generalized approach and comes up with most relevant results that catch the attention of the readers (Pittaway *et al.*, 2004)
Integration or synthesis	The parameters defined by Tranfield *et al.* (2003) showed that integration of studies is representatives of contemporary literature in the form of synthesis

Table 1. Parameters for conducting the systematic review

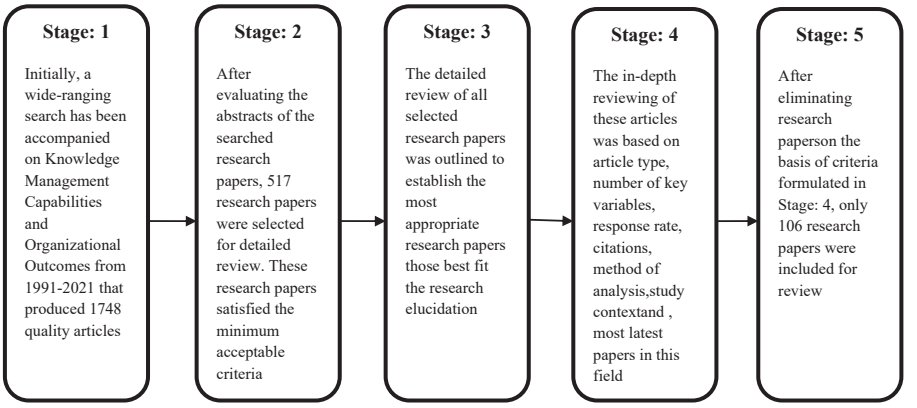

Figure 1.
Research methodology

further search consists of inner facets of KMC and their relationships with various organizational outcomes. Keyword search strings included "knowledge," "knowledge management," "knowledge management capabilities," "knowledge management process capability," "knowledge management infrastructure capability," "technological capability," "cultural capability," "structural capability," "people capability," "knowledge acquisition," "knowledge conversion," "knowledge application," "knowledge storage," "knowledge management capabilities and organizational effectiveness," "knowledge management capabilities and innovative ability," "knowledge management capabilities and value creation," "knowledge management capabilities and organizational change," "knowledge management capabilities and competitive advantage," "knowledge management capabilities and organizational learning" and "knowledge management capabilities and organizational performance." For in-depth review, the well-cited and assorted research papers were taken into consideration from the orientation list of searched papers. Moreover, for the current review, 1748 papers on KM and KMCs were included from 1991 to 2021 (three-decade data). The information regarding KMCs is taken into consideration for current review since the inception of the KM discipline to 2021.

Initial selection criteria

In the beginning, abstracts from the searched articles were studied in detail. The review and analysis of abstracts limit the studies to 517. Then the nominated papers were studied in detail. The main information that was extracted at this stage was research type, citations, independent variables, mediating variables, moderating variables, dependent variables, study context, analysis methods and response rate (see Figure 1).

Final selection criteria

After carrying the preliminary screening out session of searched articles, the final selection was executed based on the number of citations and response rate of the selected papers from 1991 to 2016 and all relevant papers published from 2017 to 2021. The reason behind inclusion of all relevant articles from 2017 to 2021 is to highlight the importance of study variables in current times. Further, inclusion of latest articles is also strengthened the synthesis of already work done in this field and for future concerns as well. The research articles were selected by following a rigorous process and only included papers published in journals indexed in, that is, Social Sciences Citation Index, Emerging Source Citation Index

and Scopus. The included research papers were majorly following quantitative and qualitative research methodologies.

Integrative review results

Overall, 106 papers were deemed suitable for inclusion in this systematic review that met the specified parameters or criteria. These research articles had conceptual and theoretical contributions and used KMCs and/or their facets as dependent, independent, mediating and moderating variables. The major conclusions that arose from this systematic review on KMCs and organizational outcomes encompass more than two decades (from 1991 to 2021) and are portrayed in Table 2, which reflects year and paper-wise analysis.

Knowledge, knowledge management and knowledge management capabilities

The concept of "dynamic knowledge" presented in the dynamic theory of knowledge creation (Nonaka, 1994) became the basis of KM discipline. In early times, Nonaka and Takeuchi (1995) classified knowledge as tacit and explicit. Later on, Davenport and Prusak (1998) have defined knowledge concerning four dimensions: contextual information, values-based, framed experience and expert insight. Due to the significance of knowledge, it is regarded as the core element of every field and its definitions are different with respect to the field and sometimes the flux of various constructs. After the early theory-building process, several researchers reached the conclusion that knowledge has two types, that is, tacit knowledge and explicit knowledge (Ahn and Chang, 2004; Bhatt, 2001; Nonaka and Takeuchi, 1995; Marqués and Simón, 2006). Tacit knowledge is categorized as unique and individualized knowledge that is difficult to imitate (Cavusgil *et al.*, 2003; Desouza, 2003; Nonaka, 1994). Conversely, explicit knowledge is the form of knowledge that is in publishable form (Akhavan and Pezeshkan, 2014; Nonaka, 1994).

The contemporary literature contains a lot of KM definitions in general as well as context-specific. Generally, Emadezade *et al.* (2012) stated that "it is a codification process" and argued that KM is the best tool for developing organizational knowledge with the help of individual knowledge. Previously, Davenport and Prusak (1998) defined KM as a comprehensive process of acquiring, converting, applying and storing knowledge with the help of infrastructure, for better organizational well-being. The capability perspective of knowledge encompasses various types of competencies that are broadly denoted as KMCs. KMCs are the platform and action patterns of KM and are divided into two distinct forms, that is, KMIC and KMPC. KMIC denotes the overall knowledge infrastructure elements that facilitate the generation and application of knowledge (Borho *et al.*, 2012; Lee *et al.*, 2012; Zaied *et al.*, 2012) and provides employees a platform to acquire, convert and apply knowledge to job tasks (Ng *et al.*, 2012; Zaied, 2012). Emadezade *et al.* (2012) further elaborated the vision of Ng *et al.* (2012) about KMIC and considered it necessary for the overall success of the KM system. In the existing literature, there are different facets of KMIC, which prominently include

Year	No. of publications	Paper type	No. of publications
1991–1995	3	Research Paper	83
1996–2000	7	Conceptual Paper	13
2001–2005	14	Case Study	2
2006–2010	13	Literature Review	5
2011–2015	19	Practitioner Paper	2
2016–2019	50	Viewpoint	1

Table 2. Distribution of publications over time interval and paper type

technology, culture, structure and people. Furthermore, Su *et al.* (2019a, b) introduced a simulation technique to enhance the knowledge transfer among organizational members in order to develop knowledge alliances. Definitions of all basic and related constructs are described in Table 3.

In this modern-day digital era, information technology is the most important facet of KMIC and is regarded as the nexus between KMIC and KMPC (Gold *et al.*, 2001; Lee *et al.*, 2012; Marques and Simón, 2006; Zaied, 2012). It deals with the human resources and facilitates them with effective reception and transmission of knowledge (Rašula *et al.*, 2012; Zaied *et al.*, 2012). Organizations generally use information technology for knowledge transfer at distant locations with a single click (Gold *et al.*, 2001). Among the facets of KMIC, organizational culture ranks at second position concerning scholarly discussion. Organizational culture is regarded as the combination of shared values, norms, attitudes and beliefs in an organization or a department (Zaied, 2012). Plausibly, knowledge culture is a form of culture with a greater potential of using knowledge processes (Rašula *et al.*, 2012). Organizational structure is another domain within organizations that can become the facilitator or a bottleneck in performance and effectiveness according to the situation (Gold *et al.*, 2001). People or human resource is the foundation of every organizational concept. Within KMIC, people play a prominent role and all other capabilities revolve around people (Zaied *et al.*, 2012).

KMPC ranked as second and included creation, conversion, storing and applying knowledge for organizational well-being (Gold *et al.*, 2001; Rašula *et al.*, 2012; Zaied, 2012). There are many facets of knowledge processes but knowledge acquisition, creation, sharing, conversion, retrieval, application and storing are widely discussed in existing literature (Gold *et al.*, 2001; Rašula *et al.*, 2012; Zaied, 2012). There are many sources by which knowledge might be acquired, such as the socialization process, training, internal collaboration and external links. Hence, acquisition of knowledge is the process that is used by organizations for knowledge acquiring (Emadezade *et al.*, 2012; Lee *et al.*, 2012; Zaied *et al.*, 2012). Nonaka (1994) argued that knowledge acquisition is a very critical and most important facet of KM performance. Knowledge conversion is the second process capability element and is important because it transforms raw knowledge into a useable form (Tseng, 2014). Knowledge application is regarded as the third element of the knowledge management process and has a close link with the implementation phase (Lee *et al.*, 2012; Salimi *et al.*, 2012; Zaied *et al.*, 2012). In the application process, already acquired knowledge is applied to

Table 3.
Definition of basic constructs of knowledge management

Construct	Author	Year	Definition
Knowledge	Nonaka	1994	The artifacts about anything or phenomenon
Tacit knowledge	Nonaka and Takeuchi	1995	Unique and individualized knowledge, which is difficult to imitate
Explicit knowledge	Nonaka and Takeuchi	1995	The knowledge that is in published form
Knowledge management	Davenport and Prusak	1998	A comprehensive process of acquiring, converting, applying and storing knowledge with the help of infrastructure for better organizational well-being
Knowledge management capabilities	Gold	2001	The platform and action patterns of knowledge management
Knowledge management infrastructure capability	Gold	2001	The overall knowledge infrastructure elements facilitate for generation and application of knowledge
Knowledge management process capability	Gold	2001	The process of creating, converting, storing and applying knowledge

perform the desired task (Akhavan and Pezeshkan, 2014). Knowledge storing is usually recognized as the structuring, mapping and storing of knowledge in the main repository of the organization so that its retrieval becomes easy (Gold *et al.*, 2001). Further, Su *et al.* (2019a, b) presented a different view that sometimes knowledge networks become a cause of failure when a knowledge loss element prevails. Recent literature on KMCs also highlighted the importance of these capabilities to various organizational outcomes (Abualoush *et al.*, 2018; Ali *et al.*, 2020; Hock-Doepgen *et al.*, 2020; Obitade, 2019; Qandah *et al.*, 2020; Rafi *et al.*, 2021; Shaqrah and Alzighaibi, 2021; Su and Li, 2020). The rationale behind conducting this review is explained in Table 4. Furthermore, the frequency of use of KMCs in the existing research is explained in Table 5.

Knowledge management capabilities and organizational effectiveness

Organizational effectiveness refers to the ability of a firm to consistently achieve the required results (Rahman *et al.*, 2013). The reviewed articles suggest that organizational effectiveness can be achieved with the help of KMCs. Our review of existing literature revealed that there is a direct effect of KMCs on organization effectiveness (Gold *et al.*, 2001). Several studies have also investigated the same with the help of mediators such as communication, social exchange and relationship building (Salimi *et al.*, 2012; Tseng, 2014). In this regard, the first study was conducted by Gold *et al.* (2001) that explained that organizational effectiveness can be achieved by developing KMCs. Later on, Zheng *et al.* (2010) pointed out that culture, technology and knowledge processes within the domain of integrated knowledge management framework ensure organizational effectiveness. KMIC gives a rapid and fast way to develop organizational effectiveness as technological breakthroughs give a strengthening effect to existing processes in becoming more efficient (Zheng *et al.*, 2010). Moreover, collaborative culture and flexible structure facilitate achieving the expected results with the help of existing human resources (Anantatmula, 2007).

Moreover, a decade of analysis of KM literature reflected that efficient knowledge processes lead to organizational effectiveness in the dynamic business world (Chuang, 2004; Maier and Remus, 2003). Every stakeholder of the organization requires organizational effectiveness and is keenly interested in better results (Gold *et al.*, 2001). The integrated knowledge management framework works with the help of KMCs and develops effective standards for meeting the required value (Chen *et al.*, 2012). Furthermore, Chang and Chuang (2011) and Zaied (2012) validated their results about the relationship between KMCs and organizational effectiveness in different contexts. Recently, Van Knippenberg *et al.* (2015) highlighted the importance of KM and its capabilities toward effective decision-making that ultimately affects the overall effectiveness of the organization. Recently, Obitade (2019) claimed that KMCs provide help organizations to maintain effectiveness by dealing with cybersecurity issues.

Particulars	Conceptual research	Review research	Research gap
Knowledge management	Alavi and Leidner (1999), Blackler (1995), Borho *et al.* (2012), Davenport and Prusak (1998), Demarest (1997), Desouza (2003), Hislop *et al.* (2018), Nonaka (1994), Nonaka and Nishiguchi (2000), Nonaka and Takeuchi (1995)	Ahmed *et al.* (2018), Asrar-ul-Haq and Anwar (2016), Hantrakul *et al.* (2012), Lee *et al.* (2012), Martensson (2000), Ng *et al.* (2012)	To date, contemporary research is silent about specialized literature review on KMCs

Table 4.
Existing conceptual and literature research on KM and KMCs

Name of Journal	Knowledge management capabilities							
	TC	CC	SC	PC	KAC	KCC	KPC	KSC
Journal of Knowledge Management	53	41	23	45	54	45	56	25
Academy of Management Journal	5	2	4	4	3	2	5	2
Harvard Business Press	2	3	2	2	4	3	2	5
Journal of Management Information Systems	14	22	12	23	32	11	21	24
International Journal of Information Management	24	12	14	16	12	13	12	19
VINE: The Journal of Information and Knowledge Management Systems	27	26	22	24	36	35	29	31
Decision Support Systems	9	3	11	12	8	8	5	7
Industrial Management and Data Systems	5	3	4	3	7	7	5	6
Communications of the AIS	11	21	15	16	11	12	13	12
Journal of Management Studies	21	22	12	24	32	14	21	23
Business Process Management	8	9	8	7	6	7	5	6
Organization Studies	17	15	22	21	18	19	16	19
Journal of Management	9	8	11	8	9	8	8	12
Journal of Business and industrial Marketing	3	4	4	4	3	2	6	5
Expert Systems with Applications	22	18	24	19	15	16	17	14
Long Range Planning	4	5	5	5	2	5	5	2
International Journal of Management Reviews	15	16	14	13	12	14	16	14
Interdisciplinary Journal of Contemporary Research in Business	7	6	5	6	5	6	6	3
Procedia – Social and Behavioral Sciences	14	13	11	12	12	8	9	5
International Journal of Management Reviews	13	12	12	13	12	15	19	8
Pakistan Journal of commerce and Social Sciences	5	3	2	4	4	3	4	2
Organizational Dynamics	14	11	15	17	15	9	18	6
African Journal of Business Management	3	3	2	2	5	5	6	3
Journal of Organizational Change Management	14	15	23	24	29	34	23	15

Table 5. Frequency of KMCs used in existing research

Note(s): TC = Technological Capability, CC= Cultural Capability, SC= Structural Capability, PC= People Capability, KA= Knowledge Acquisition, KC= Knowledge Conversion, KP= Knowledge Application, KS= Knowledge Storage

Knowledge management capabilities, innovative ability and value creation

In the contemporary globalized world, every organization is attempting to achieve innovative ability to be able to compete with rivals (Denyer and Neely, 2004). Additionally, timely innovation guarantees firm productivity (Cavusgil *et al.*, 2003). The selected articles elaborated that innovation is one of the outcomes of effective use of dynamic knowledge. In KM direction, Alavi and Leidner (1999) initially investigated the impact of KM enablers to enhance the innovative ability of the firm. Furthermore, innovation has become the key to success by producing quality products and services (Liao *et al.*, 2010; Pollok *et al.*, 2019). In this respect, KMCs provide the mechanisms for acquiring new and existing knowledge to enhance innovative ability (Liao and Wu, 2010). According to Cavusgil *et al.* (2003), organizations can develop innovative abilities through tacit knowledge transfer. Similarly, Giampaoli *et al.* (2017) explained that KMCs enhance firm performance through innovation. The first review paper regarding KM and innovation was presented by Pittaway *et al.* (2004) in the context of high-tech firms. Imran *et al.* (2017) developed a contingency approach of KMCs for boosting innovation in organizations. Recently, different scholars have further investigated the stated relationship and proved that innovation has close link with knowledge and KMCs (Ferraris *et al.*, 2019; Goh, 2005; Liao *et al.*, 2010; López-Nicolás and Meroño-Cerdán, 2011; Martín-de Castro *et al.*, 2011; Qandah *et al.*, 2020; Teixeira *et al.*, 2019; Vaccaro *et al.*, 2010). According to Chien and Tsai (2012), knowledge management capabilities can enhance value creation, innovation, human capital and customer capital.

Recently, Yi *et al.* (2021) investigated the linkage between KMCs and firms' ability to innovate products in critical times in emerging economies. Previously, Karltun *et al.* (2020) summarized the empirical results to add value through quality improvement with the help of KMIC in health sector organizations. Moreover, firms have to prepare themselves to deal with unforeseen risks during the innovation process by deploying KMCs efficiently and effectively (Hock-Doepgen *et al.*, 2020). On the other hand, Ali *et al.* (2020) argued that KMCs are equally beneficial to improve the innovative capability of the teams jointly with social media. Additionally, Butt *et al.* (2019) emphasized that individual orientation about KMCs engagement is a turning factor to boost overall innovation and value creation. Further, Ferraris *et al.* (2017) examined the mediating role of KMCs to link research and development with the business performance of subsidiaries of MNCs. Recently, Shaqrah and Alzighaibi (2021) discussed the role of KMCs in maintaining value creation in the context of big data.

Knowledge management capabilities and competitive advantage

Every organization is keenly interested in developing a competitive advantage over its rivals for existence and prosperity (Ndlela and du Toit, 2001). After the implementation of the World Trade Organization (WTO) regime, competitive advantage is considered the most powerful tool for organizations and has become the norm of growing organizations (Lubit, 2001). Imran *et al.* (2018) explained that competitive advantage can be achieved through KMCs and effective strategy execution. Meihami and Meihami (2014) developed a theory that organizational knowledge is the source of competitive advantage in organizations. On the other hand, information technology gave the services sector a boom and envisioned firms to deliver in an improved manner (Lubit, 2001).

Through technological breakthroughs, many organizations touch the highest level of success while others disappear for not adapting to the changing needs (Imran *et al.*, 2018). Chuang (2004) elaborated on the importance of KMCs in the context of competitive advantage and suggested that competitive advantage might be gained by organizing efficient processes in a healthy infrastructure. Moreover, organizations are usually adopting an integrated knowledge management framework for gaining a competitive advantage (Shujahat *et al.*, 2019; Ndlela and du Toit, 2001). Furthermore, Meihami and Meihami (2014) conducted a study on the manufacturing firms and highlighted the importance of KMCs for developing sustainable competitive advantage. On the other hand, the presence of KMCs in any organization strengthens the ability of the firm to maintain a competitive advantage during the risky phase of the business (Zhang *et al.*, 2018). Around the globe, demand-led new products are the source of gaining competitive advantage and KMCs provide assistance in every step of new product development process (Im *et al.*, 2016).

Knowledge management capabilities and organizational change

Change is the only phenomenon that is constant in progressive organizations (Burke and Litwin, 1992). Moreover, the inability of an organization to change leads to demise (Imran *et al.*, 2016). According to Bruque *et al.* (2008), the revolution of information technology forces organizations to change. It is considered the first comprehensive study regarding organizational change and the KM enabler relationship. Later on, Stankovic-Rice (2011) explored the links of social media along with KMCs to implement changes effectively. Proper information dissemination is only possible if organizations have appropriate KMIC, that is, facilitating culture, collaborative structure and efficient technology. During the change implementation phase, change information can be transmitted through knowledge mechanisms since it is important to know about the benefits of change before implementation (Vaccaro *et al.*, 2010; Imran *et al.*, 2016). Additionally, KMCs facilitate the change agents to develop readiness for change (Collins and Smith, 2006). Furthermore,

Imran *et al.* (2016) proved that KM strategies facilitate organizational change in organizations by developing readiness to change. On the other side, Imran and Iqbal (2021) stated that leaders' knowledge helps them to remain effective in times of organization. Recently, Rafi *et al.* (2021) claimed that effective organizational agility can be attained by using KMCs in developing economies.

Knowledge management capabilities and organizational learning

Organizations are continuously adopting new learning mechanisms due to their benefits on organizational well-being, that is, training, learning sessions, workshops and seminars (Imran *et al.*, 2016). In this context, KMCs has changed the whole paradigm of organizational learning through efficient knowledge processes and infrastructure capability (Imran *et al.*, 2017; Lioa and Wu, 2010). Through information technology, organizational learning enters new advanced learning portals, that is, web 2.0 (Singh *et al.*, 2006). Many scholars have attempted to measure KM and organizational learning relationships and suggested that KMCs are the building blocks for developing a learning culture in the organizations (Chien and Tsai, 2012; Emadezade *et al.*, 2012; Singh *et al.*, 2006). Furthermore, Imran *et al.* (2017) investigated the indirect effect of KMCs on organizational performance via organizational learning. Similarly, Brix (2017) also empirically tested the positive association between knowledge creation ability and organizational learning. The more an organization can generate new knowledge, it will have positive effects on organizational learning. The learning capability of the workers is critically important to manage the affairs of the businesses, and KM is providing the basis for improving such capability and also empowering workers to make better decisions (Hannola *et al.*, 2018). Further, Jiafu *et al.* (2018) deployed a weighted network method to enhance learning by defusing knowledge among research and development department workers.

Knowledge management capabilities and organizational performance

The papers included in our review presented mixed views regarding KMCs and organizational performance relationships. Some studies explained the direct effects of KMCs on OP (Chen *et al.*, 2012; Chien and Tsai, 2012; Emadezade *et al.*, 2012; Zaied, 2012). On the other side, several researchers attempted to measure the indirect effect of KMCs toward organizational performance by involving other intervening variables, that is, organizational learning, employee creativity, competitive advantage, problem-solving, innovation ability (Darroch, 2005; Imran *et al.*, 2017, 2018; Tseng, 2014). Initially, the direct link between KMCs and organizational performance was investigated by Tseng (2014). Furthermore, Imran *et al.* (2018) examined the mediating mechanism of employee creativity on knowledge processes and firm performance relationship. Similarly, KMCs are beneficial for developing employees' orientation toward achieving required business performance (Abualoush *et al.*, 2018).

Furthermore, Balasubramanian *et al.* (2019) linked KMPC with business performance in new ventures of public sector organizations. In the current era, big data management is a critical task for organizations to manage business performance that could be solved by engaging the services of KMCs. In this respect, Alaarj *et al.* (2017) highlighted the importance of KMCs in enhancing the overall performance of public sector organizations. Similarly, Imran *et al.* (2018) emphasized that KMPC is important to enhance firm performance as it leads to employee creativity, and creativity results in better performance. Recently, Zaim *et al.* (2019) examined the relationship between KMPC and firm performance by involving knowledge utilization as a critical factor in attaining sustained objectives. A short glimpse of research studies about KMCs and organizational performance outcomes is given in Table 6.

Outcomes	Research
Organizational effectiveness	Gold *et al.* (2001), Rahman *et al.* (2013), Zheng *et al.* (2010), Karltun *et al.* (2020), Butt *et al.* (2019)
Innovative ability	Cavusgil *et al.* (2003), Darroch (2005), Ferraris *et al.* (2017), Goh (2005), Liao *et al.* (2010), Martín-de Castro *et al.* (2011), Martinez-Conesa *et al.* (2017), Vaccarao *et al.* (2010), Yi *et al.* (2021), Hock-Doepgen *et al.* (2020), Ferraris *et al.* (2017), Pollok *et al.* (2019), Shujahat *et al.* (2019), Teixeira *et al.* (2019)
Value creation	Chien and Tsai (2012), Giampaoli *et al.* (2017), Ali *et al.* (2020), Shaqrah and Alzighaibi (2021)
Competitive advantage	Chuang (2004), Lubit (2001), Meihami and Meihami (2014), Ndlela and du Toit (2001), Butt *et al.* (2019), Im *et al.* (2016)
Organizational change	Bruque *et al.* (2008), Chen and Huang (2007), Imran *et al.* (2016), Stankovic-Rice (2011), Rafi *et al.* (2021)
Organizational learning	Andrews and Delahaye (2000), Imran *et al.* (2017), Liao *et al.* (2010)
Organizational performance	Ahn and Chang (2004), Anantatmula (2007), Chen at al. (2012), Drew (1997), Emadezade *et al.* (2012), Imran *et al.* (2018), Lopez-Nicolas and Merono-Cerdan (2011), Marques and Simon (2006), Rasula *et al.* (2012), Singh *et al.* (2006), Tseng (2014), Zack *et al.* (2009), Zaied (2012), Zaied *et al.* (2012), Zhang *et al.* (2018), Abualoush *et al.* (2018), Balasubramanian *et al.* (2019), Ferraris *et al.* (2019), Alaarj *et al.* (2017)

Table 6.
Detailed analysis of KMCs literature and its outcomes

Conclusion

KMCs ensure the development and optimal use of knowledge assets to achieve organizational goals, objectives and success. KMCs enable human resources to create, promote and transfer both explicit and implicit knowledge. Some of the previous studies have mentioned that KMCs can commence, enhance and uphold positive relationships that help enhance business performance. The basic objective of this paper was to highlight how KMCs are useful in gaining positive organizational outcomes and competitive advantage across the organization. Our review has offered and summarized the possible organizational outcomes facilitated by KMCs in dynamic organizations. The current systematic review shed light on the importance of KMCs to achieve and enhance various organizational outcomes such as organizational effectiveness, innovative ability, competitive advantage, organizational change, organizational learning, value creation and organizational performance. We found that organizations can achieve overall success by using an optimal mix of KMCs. One of the limitations of this study is the cooperation bias. It occurs when previous studies on knowledge management and KMCs highlight that respondents of their studies overestimated their level of participation to enhance or bring positive organizational outcomes. The relational description of KMCs with various organizational outcomes is shown in Figure 2.

Future directions

The current review integrated the existing research on KMCs and their impact on various organizational outcomes. Further, this review proposes important research avenues that will extend the field of KM in general and KMCs in specific. *First*, researchers used the meta-synthesis approach to systematic review; it is recommended to use the meta-analysis approach in future research studies to reach at a quantitative figure regarding the impact of KMCs on various organizational outputs. *Second*, the stringent competition has enhanced the need for dynamic capabilities in organizations to sustain their survival, therefore, to solve real-time problems and achieve better organizational outputs, the future research should

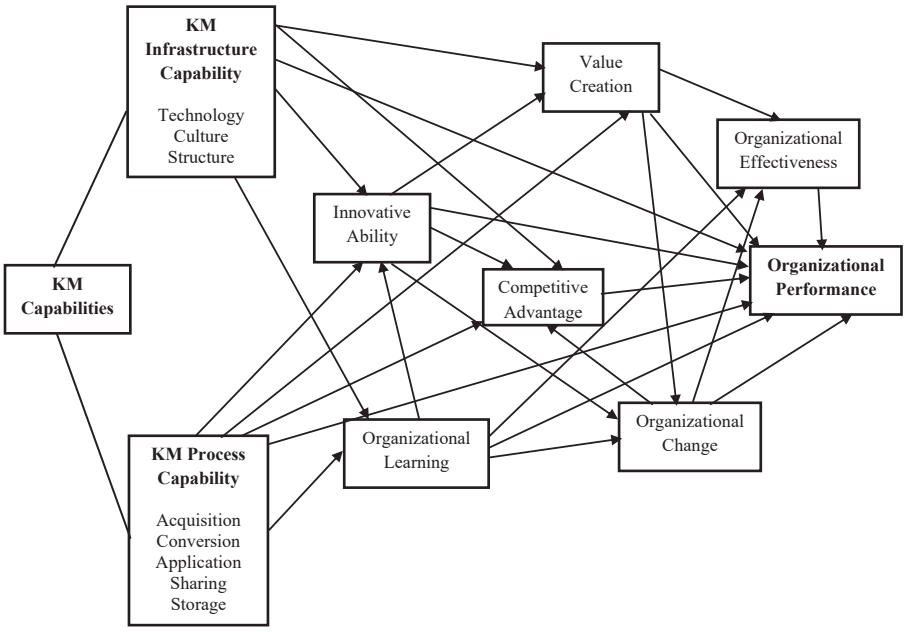

Figure 2.
Graphical representation of relations established in existing literature

focus on the conceptual development of dynamic KMCs with the addition of new facets. Additionally, the diversity in the dimensionality of KMCs construct should be explored and validated as per the unique organizational contexts. This suggests the addition or deletion of certain facets to KMCs construct for the breadth of its applicability.

Third, in contemporary research, it is evident that KMCs facilitate organizational performance directly and through various mediation links such as creativity and innovation and so on. Hence, it would be interesting to study other moderating and mediating links to enhance organizational performance by deploying KMCs. *Fourth*, extant research on KMCs discussed the organizational-level facets only; therefore, it would be appropriate that future research will introduce individual and group-level KMCs as well. It will give insights into a novel way of how groups and individuals use KMCs for creativity, innovation and sustained performance. *Fifth*, a comparative analysis regarding the use of KMCs in different types of organizations and countries is needed, for example, a comparative analysis regarding the use of KMCs in manufacturing, services and trading organizations.

Sixth, this research ignored many important dimensions of knowledge management, such as structural capital, absorptive capacity, ambidexterity and so on that may be considered in the future to investigate their association with KMCs and their ultimate linkage with performance. *Seventh*, SECI and Ba model is one the foundation concepts of KM, and any study investigating relations KM with organizational outcomes is short without discussing SECI or Ba model. Hence, in future, a detailed meta-analysis is being proposed that will cover all the empirical investigation of KMCs considering implications of SECI model. *Lastly*, a proposed research framework has been formulated to summarize the findings of the current integrative review and depicted in Figure 3. The KMCs can potentially affect various individual, group and organizational-level outcomes, that is, innovation, new product development, change adaptability, work engagement, performance, learning, agility and organizational development. Further, current research suggested some mediators that possibly play a bridging role between knowledge management capabilities and possible

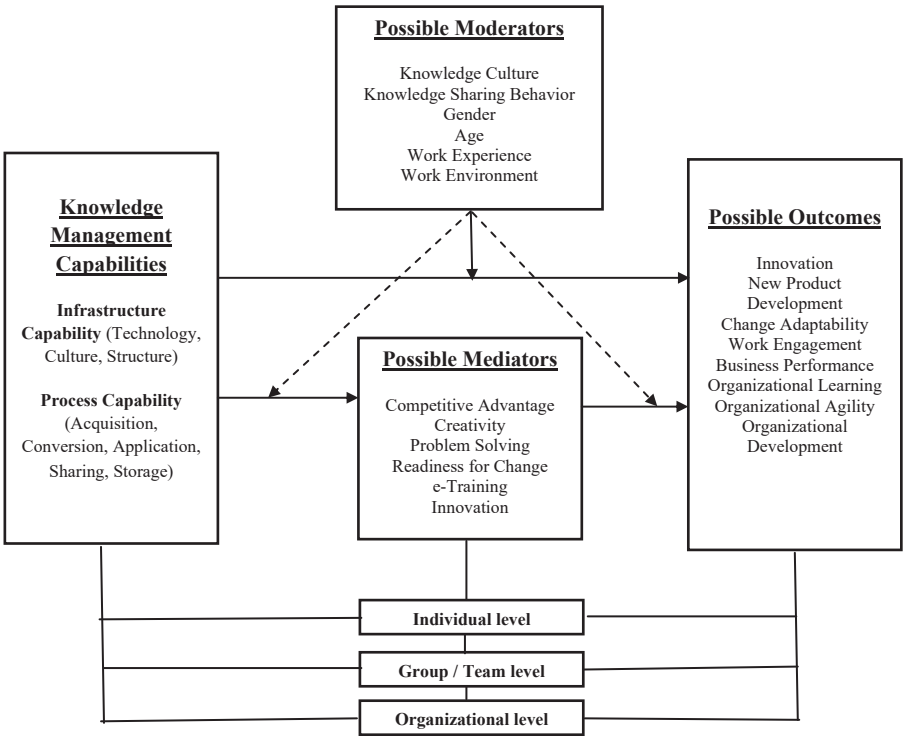

Figure-3.
The proposed research framework

outcomes, that is, competitive advantage, creativity, problem-solving capability, readiness for change, e-training and innovation. Furthermore, some prospective categorical and latent moderators are also offered in this study, that is, knowledge culture, knowledge sharing behavior, gender, age, work experience and work environment.

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