

## KNOWLEDGE MANAGEMENT PROCESS AND INNOVATION: A NARRATIVE REVIEW AND FUTURE DIRECTION

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### ABSTRACT

*Knowledge is considered an important resource for organizational existence, firmness, advancement, and enhancement. The purpose of this study is to provide a narrative review of the relationship between knowledge management processes considering knowledge acquisition, knowledge sharing, and knowledge application through current literature and also provide a future direction. This study follows a narrative literature review of the existing works to compile and scrutinize earlier studies on this ground. The outcome of the study not only showed that knowledge processes directly influence innovation but there are also other organizational variables (e.g., organizational learning, absorptive capacity) that facilitate this association. Knowledge acquisition, knowledge sharing, and knowledge application appear as three central processes that influence innovation. Knowledge acquisition and knowledge sharing are the most often studied knowledge processes. The majority of the sample papers present traditional innovation definitions (product vs process, radical vs incremental, and technical vs administrative). The present paper based on a narrative review includes databases such as Google, Google Scholar, Francis & Taylor, Emeralds, Scopus, SAGE, JSTOR, Springer, and all papers were retained in a Microsoft Excel file. However, the search is only limited to a narrative literature review.*

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**Keywords:** Narrative Literature Review, Knowledge Management Process, Knowledge Sharing.

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### Introduction

Today in the era of a turbulent economic environment, innovation has become the backbone of every establishment. The speed of global economic development depends on the bases of innovation, considering made probably through rapidly growing technology, shorter duration of product Lifecycles, and a higher rate of new product expansion. So, every Company makes ensures that its business policies or strategies are innovative and different from other competitors to endure competitive advantage. In today's world, the demand of the customers is changing, pressure to become the pioneer and with rapid technological advancement, innovation become gradually complex (Cavusgil et al., 2003). The complication in innovation has also been augmented with the progressive development in the amount of knowledge accessible to establishments. The dependency of innovation is tremendously based on the obtainability of knowledge in the organization and therefore richness of knowledge has to be recognized and be able to ensure fruitful innovation (Adams and Lamont, 2003; Cardinal et al., 2001; Darroch and McNaughton, 2002; Pyka, 2002; Shani et al., 2003). The knowledge-based view of the organization identifies knowledge as an important and the main basis of competitive advantage and highlights the business's role as an establishment for the manufacturing of products and services (Grant, 1996, p. 120).

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So that if the organization wants to sustain itself in the market, then it needs to modify or redesign its product and services (Alavi and Leidner, 2001; Davenport and Prusak, 1998). Thus, the constant necessity for segregated goods and services that depends on continuous innovation and a well-organized system of "knowledge management" (Popadiuk and Choo, 2006, p.302). Therefore, Knowledge affords companies with constant viable benefits through its application in novelty or upgraded products or services, manufacturing processes, management practices, and marketing policies, that is, innovation (Ceylan, 2013). It is extremely dependent on the communication of knowledge or information amongst workers.

Knowledge is considered an important resource for organizational existence, firmness, advancement, and enhancement (Al-Ali, 2013; Sweis, Fallaq, Buqjati, & Abu-Hammad, 2011). It can help establishments to remain competitive, by sharing facts with the external companies and understanding their competitors' goods, services, strategies, and best practices (Attia & Salama, 2018). In addition, knowledge management can assist companies in acquiring, interpreting, and the uses of knowledge-related resources across useful boundaries to generate new knowledge (Gharakhani & Mousakhani, 2012). Therefore, KM plays an important factor in the achievement of sustained innovation that leads to sustainable competitive advantage (Shenbagavalli, 2013). By considering the need to comprehend the connection between knowledge and innovation several investigators explored the association between the different processes of knowledge and innovation consequences (Costa and Monteiro, 2016). Such attention increases the want for a narrative review of pertinent works that can compile and scrutinize earlier studies on this ground.

The main aim of the study is to assess the current research's main findings in considering the relationship between knowledge management processes and innovation; secondly, to know which knowledge management processes affect the more considering its relationship with innovation and thirdly which variables show a mediation role in Knowledge management processes–innovation research and to provide future directions.

#### **Literature Review**

Before we can passage to the next method, it is imperative to know the concept of the knowledge management process and innovation and to know the interrelatedness within the knowledge management process and innovation by studying varied literature to fulfill the purposes.

#### **Knowledge Management Process**

In today's contemporary world, knowledge is believed as one of the important assets in organizations. Knowledge is considered a real capital both for employees and management. It is an important and effective means by which organizations carried their work and task in such a way in order to accomplish their pre-defined goals, target, and so on effectively and efficiently. Moreover, knowledge creates innovations and renovates them into goods and processes (Maruf & Zhou, 2015). Hajir, Obeidat, Al-dalahmeh, & Masa'deh (2015) explained knowledge management as the allocation of suitable knowledge or information to the personnel at the right time to support the persons to increase the organizational effectiveness through accepting up-to-date methods that enhance the capabilities of individuals to produce and innovate. It is a great source of excellence for establishments and the base for their development and achievement (Obeidat, Al-Suradi, Masa'deh, & Tarhini, 2016).

In addition, knowledge management is also defined as the procedures that support the organization to advantage, form, generate, distribute, and transfer information, and expertise that the organization possesses to various management activities, such as decision making, problem-solving, learning, and strategic planning (Obeid & Rabay'a 2016; Hussinki et al., 2017).

- **Knowledge Acquisition**

Many have acknowledged the vital role of external knowledge sources in supporting the innovation process (Cohen and Levinthal, 1990; Caloghirou et al., 2004; Jantunen, 2005; Dahiyat and Al-Zu'bi, 2012). This is mainly due to a number of imperatives characterizing contemporary business environments, such as ever-changing customer needs, hyper-competitive industries and markets, and rapid technological changes. Hence, sustaining innovation activities has become extremely dependent on the organization being continually open and exposed to various sources of external information and knowledge (du Plessis, 2007; Xu et al., 2010). This is supported by contemporary research on the sources of innovation, which found that most innovations nowadays are more dependent on borrowing (i.e., acquiring knowledge) rather than inventing (i.e., creating knowledge internally), exemplified by 'open innovation' (Chesbrough, 2003). Hence, collaborative arrangements and knowledge-sharing networks

between an organization and its stakeholders, particularly its value-chain partners, have proliferated encompassing customers, suppliers, strategic alliance partners, and other complementary stakeholders as initiators of product and process development and improvement (Johnson et al., 2008; Chesbrough, 2011;).

- **Knowledge Sharing**

Nowadays Knowledge sharing is seen as an important topic of research in management (Serenko and Bontis 2016). Cummings (2003) explained Knowledge sharing as the basis through which firms have access to both internal and external sources of knowledge. In a broader sense, knowledge sharing is considered the method of transfer of skill, experience, and organizational information to business procedures through communication channels among employees (Oyemomi, Neaga, & Alkhurajji, 2016). It is also crucial for the proper utilization and use of knowledge assets. It puts a direct impact on other knowledge processes, such as knowledge integration and creation (Masa'deh et al., 2016). Knowledge sharing can be defined as the specific process of the organization used "to disseminate, transfer, and exchange knowledge among employees. In addition, it is the basis for creating and generating new knowledge" (Bouraghda & Dris, 2015).

- **Knowledge Application**

The successful application of knowledge or information helps the organization to achieve its short-term or long-term achievement of goals with the designation of authority and power through the organization (Bouraghda & Dris, 2015). The persistence of knowledge application is to convert the knowledge or information into practical application in the organization. The achievement of knowledge management policy depends on the amount of knowledge applied (Dalkir, 2005). "The effective application of knowledge is the cornerstone of organizational innovation, as innovation is essentially seen as the process through which the organization follows a set of activities designed to enable it to utilize and apply created and learned knowledge: to develop new products/services, managerial systems, technologies, and processes; solve new problems; improve overall performance and productivity; and modify any aspects of its business" (Dahiyat, 2015, p. 118).

### **Innovation**

Several authors or researchers explained innovation in different ways, it is the fruitful introduction of novelty such as the launching of new processes, tools & techniques, methods, or modifications in the products and services. Some authors described innovation as a method wherein information is created, shared, and integrated to generate new knowledge that represents goods and services (Herkema, 2003), methods or procedures, and processes (Brewer & Tierney, 2012), societal and environmental perspectives (Harrington et al., 2017) and formation of value. Innovation is a precondition for competitive benefit. However, an existing interpretation of innovation recommends that a combination of extant knowledge assets is crucial for the manufacturing of new goods and services (Ju et al., 2006; Subramaniam, 2006; Mei and Nei, 2007). The main focus of the innovation is to unite the innovators and regulators so they can derive a mutual understanding of how a detailed innovation can be familiarized in the organization (Soete, 2019).

### **Knowledge Management and Innovation**

Knowledge management plays an important and crucial role in innovation through its differentiated resources similar to enabling teamwork, supporting the conversion of implicit knowledge into overt knowledge, categorizing knowledge gaps, and confirming that knowledge is obtainable and reachable (Du Plessis, 2007). Therefore, several investigators have explored the association between knowledge and innovation (Darroch and McNaughton, 2002; Darroch, 2005; Sousa, 2006; Xu *et al.*, 2010), and specifically focus on the role of knowledge formation as a criterion for innovation (Kogut and Zander, 1992; Popadiuk and Choo, 2006; Quintane *et al.*, 2011). Additionally, knowledge usage is one more central practice, and it must follow knowledge formation to leverage continuous innovation (Xu *et al.*, 2010; 2011). The processes of knowledge formation and knowledge application are critical for innovation and may depend on other procedures such as acquisition, sharing, and classification, to positively influence innovation outcomes (Andreeva and Kianto, 2011; Li *et al.*, 2009; Zhou and Li, 2012).

There are different nomenclatures of innovation. As per the OCDE (2005), four types of innovation exist, such as; "product, process, marketing, and organizational". Further definitions of innovation are "technological" (Nelson, 1993), "incremental or radical" (Henderson & Clark, 1990), "disruptive" (Christensen & Raynor, 2003), and "open innovation" (Chesbrough, 2012). However, the knowledge management process is important and crucial for innovation that is validated through a

number of research. Literature-based on innovation is prevalent and explored in other research fields also (Gopalakrishnan and Damanpour, 1997), which produces different theoretical approaches that have been conceptually framed. Considering the organizational field, innovation can be defined as “the development and use of new ideas or behaviors” (Damanpour and Daniel Wischnevsky, 2006, p. 271). In conclusion, the multiple explanations show a lot of variety in innovation, and the need to clearly distinguish which type of innovation is being talked.

### **Methodology**

A narrative analysis of the prevailing literature was established to know the effect of knowledge management processes on innovation by applying appropriate keywords for searching, such as knowledge management, knowledge management processes, innovation, and organizational innovation. These types of reviews play a significant role in exploring and developing a precise topic. It does not include any proper methodological approaches and gives a clear picture of new areas of study that is not covered yet. For this study, around 81 papers were selected from the databases such as Google, Google Scholar, Francis & Taylor, Emeralds, Scopus, SAGE, JSTOR, Springer, and all papers were retained in a Microsoft Excel file.

### **Report of the Findings**

Herein, we report the conclusions of existing literature and provide an explanation that how different types or dimensions of culture puts an impact on innovation. Several empirical paper analyses showed that the knowledge management process puts directly influences innovation (Aboelmaged, 2014; Hung *et al.*, 2010; Lee *et al.*, 2013; Xu *et al.*, 2012; Zhou and Li, 2012). KMPs also mediate the relationship between numerous organizational variables and innovation

*Knowledge acquisition and innovation.* Previous studies linked “external knowledge acquisition” to the innovation procedure (Zahra and George, 2002). When the establishment have lack internal resources to effectively innovate, they depend on knowledge acquisition (Maes and Sels, 2014). Knowledge acquisition is often examined seeing its indirect consequence on types of innovation, also being mediated by other organizational variables. However, it looks to directly impact “radical product/service innovation” (Marvel, 2012), “product innovation” (Maurer, 2010), and “innovative product performance” (Molina-Morales *et al.*, 2014). Knowledge acquisition is defined as “the method through which a firm gathers information” (Molina-Morales *et al.*, 2014, p. 236), and it includes both the sources of knowledge i.e., external acquisition and internal (Liao *et al.*, 2012), or several aspects, such as “technological knowledge”, “ways to serve markets”, “customer problems” and “market knowledge acquisition” (Marvel, 2012). The researcher that investigates knowledge acquisition highlight dimensions associated with organizational themes like “societal capital” (Martinez-Canas *et al.*, 2012; Molina-Morales *et al.*, 2014), “absorptive capacity” (Liao *et al.*, 2010), and “networks” (Zheng *et al.*, 2011), focusing on external ties and the competition/cooperation dilemma (Zhang *et al.*, 2010).

*Knowledge sharing and innovation.* Knowledge sharing, can be described as “the act of placing knowledge possessed by an individual at the disposition of others within the organization” (Camelo-Ordaz *et al.*, 2011, p. 1444), plays a significant role in innovation that puts a direct impact on “product innovation” (Camelo-Ordaz *et al.*, 2011; Wong, 2013), “radical innovation” (Maes and Sels, 2014) and “innovation capability” (Saenz *et al.*, 2012). In spite of the general description, some papers theorize knowledge sharing as encompassing different dimensions, such as cooperation, reputation, and selflessness (Hu *et al.*, 2009). Another scholar considers different variables that permit the sharing of knowledge, like “information and communication technology”, “individual collaboration” and “management processes” (Saenz *et al.*, 2012). Some papers also explored “team culture” (Hu *et al.*, 2009) and “affective commitment” (Camelo-Ordaz *et al.*, 2011), displaying the importance of commitment-based human resources approaches (Soto-Acosta *et al.*, 2014), during this human-interaction phase. Firm location in industry clusters with similar businesses (Connell *et al.*, 2014) and the construction of apprentice-based and intra-organizational communities of practice (Pattinson and Preece, 2014) also support knowledge sharing.

*Knowledge application and innovation:* After acquiring knowledge from outer and internal sources and creating, the application of knowledge is very important for effective innovation. In other words, a firm’s capability to obtain and generate knowledge does not understand that one can adopt that such information will be applied successfully in the vein of supporting organizational innovation practices (Nonaka and Takeuchi, 1995; Gold *et al.*, 2001). In fact, a pertinent theme in the innovation literature is the emphasis placed upon the importance of developing processes specifically designed to utilize external knowledge sources in innovation activities (Chesbrough, 2003). Innovation, as Gold *et al.* (2001)

point out, is the result of application-based processes that are oriented toward the actual use of newly created knowledge. A firm that lacks the necessary capabilities to effectively exploit acquired and created knowledge and incorporate it into valuable new or improved products, processes, and technological know-how, will not be able to sustain a high degree of innovation (Cavusgil et al., 2003; du Plessis, 2007). In fact, firms would not be able to sustain their competitiveness if they failed to harness and apply their knowledge-based resources in value-creating activities. As such, one of the most important tasks of the firm, according to the knowledge-based view, is the duality of knowledge creation and utilization (Grant, 1996; Teece et al., 1997; Jantunen, 2005; Tseng et al., 2011), as today's hyper-competitive environment has compelled business firms to make full use of their knowledge-based resources so as to support innovative activities (Jantunen, 2005; Brachos et al., 2007)

### Conclusion

This narrative paper aims to discover which KMPs are frequently studied, considering their relationship with innovation, as well as to show and discuss the main findings of KMP– innovation literature. Results show that the knowledge processes are important to leverage innovation. However, each key KMP not only always directly influences innovation but also is mediated by other organizational variables. Particularly, knowledge acquisition seems to be more effective for innovation purposes when it is market-focused (Darroch and McNaughton, 2002; Lin et al., 2012; Zhou and Li, 2012). Otherwise, newly acquired knowledge may depend on organisational dynamic capabilities (e.g. absorptive capacity), organizational learning, combinative capabilities, or other KMP-like creation and application. Thereby, results suggest that knowledge is more likely to promote innovation results in organizations with the high absorptive capacity and learning capabilities. Even more, they support Xu et al.'s (2010) review that emphasizes the key role of knowledge creation and application. In fact, knowledge creation fully mediates the impact of other KMP on innovation (Andreeva and Kianto, 2011; Zhang et al., 2010), while knowledge application mediates the relationship between knowledge sharing and innovation (Li et al., 2009). Knowledge sharing and knowledge acquisition are the most frequently studied KMP by empirical papers, considering the relationship with innovation. However, this shows the current research's concern about external search and organizational networks to broaden and deepen the organizational knowledge base, as well as the need for human interaction for ideation and innovation purposes. Nevertheless, strengthening the knowledge base through external acquisition or internal knowledge creation provides a potential for innovation activities and outcomes. This potential innovation capacity is realized when knowledge is shared among individuals and units and is subsequently applied, highlighting the importance of creating a knowledge-sharing culture in organizations (Aboelmaged, 2014; He and Abdous, 2013).

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