

BRIDGING INTELLECTUAL CAPITAL AND KNOWLEDGE MANAGEMENT THROUGH KNOWLEDGE: A REVIEW

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ABSTRACT

The objective of this review study is to identify the role of knowledge in combining Intellectual Capital (IC) and Knowledge Management (KM) within an organization. Though the literature suggests a relationship between IC and KM, the recognition of the best bridge in building this relationship is yet to be discussed and hence the theoretical and conceptual relationship among knowledge, IC and KM is still a dilemma. Thus, this review attempts to identify the knowledge as the bridging source of IC and KM. According to the literature, different arguments were found on this phenomenon, and no evidence is found merely in reviewing how knowledge plays a role in linking IC and KM. Therefore, this study will fill this untouched literature gap by reviewing the previous research articles in the fields of IC and KM. This study adds new knowledge to the existing literature in solving the unsolved puzzle of the role of knowledge in combining IC and KM. This review study attempts to conclude the theoretical relationship of IC with knowledge and the theoretical relationship of KM with knowledge. For this review study, previous research articles were reviewed, and it is identified what kind of relationship exists among IC, KM and knowledge. It was found that knowledge exists in an organization in the form of stock as well as in terms of a flow. Most of the scholars in IC and KM arena argued that the two forms of knowledge, i.e., the form of stock, is the static form of knowledge, while the form of flow is the dynamic form of knowledge. The review further revealed that the static form of knowledge could be substituted with IC and the dynamic form of knowledge can be substituted with KM. Hence, it can be concluded that, based on the various arguments

and opinions found from the review, IC is the knowledge stock in an organization, while the KM is the knowledge flow in the organization. Finally, the conclusion of this review study is, knowledge uses its two forms, i.e., stock and flow or static and dynamic to combine the concept of IC and concept of KM.

Keywords: Dynamic form of knowledge; Intellectual capital; Knowledge; Knowledge management; Static form of knowledge

1. Introduction

Over the past few decades, the previous literature suggests a vibrant relationship exists between IC and KM within an organization (Abeysekara, 2021; Zahedi & Khanachah, 2021; Chen & Tsai, 2020; Garcia-Perez et al. 2020; Karasneh, 2020). Even though such a relationship is evident in the theoretical and empirical podia, the discovery of the coordinator of this relationship is yet to be explored. Thus, this review tries to offer this coordinating and bridging role to the notion of organizational knowledge with the support of evidence found in the literature.

Knowledge is considered as the unique meaningful resource in the organizations in today's knowledge based economy. It is deliberated as the success factor of any organization, which leads to sustainable competitive advantage and ultimately to value creation for the stakeholders of the organizations. Present day business world has accepted that the critical success factor of the businesses is nothing other than their knowledge (Felton & Finnie, 2003). According to Wiig (1997), most of the top management people in the United States of America agreed that the knowledge is the most critical asset in their organizations and predicted that the knowledge-based assets would be the foundation of success in 21st century. This prognosis is transformed into the reality in present knowledge and information-based business society.

Knowledge plays a vital role in this information era. According to Bontis (1999), information was doubled by every 30 years before the 1900s, and this number reduced up to 7 years after the 1970s. It was forecasted this number would be 11 hours in the year 2010. This fact indicates the importance of knowledge and information in this present century than in previous centuries. These knowledge and information are intangible resources within business organizations, which are not recognized in their financial statements as intangible assets.

However, these intangible resources, like knowledge, information, and experience are recognized as Intellectual Capital (IC), articulating the base for creating and sustaining competitive advantage in the twenty-first century (Ghosh and Mondal, 2009). Therefore, a theoretical relationship can be recognized between knowledge and IC as the scholars defined intangible assets, including knowledge, as IC in the organizations.

On the other hand, according to the third school of thought, the process of catching and assessing the know-how of the organizations is known as the Knowledge Management (KM) (Moustaghfir & Schiuma, 2013). This point elaborates that there is also a theoretical relationship between knowledge and KM. Thus, the literature supports the theoretical relationship among knowledge, IC and KM.

In addition to that, knowledge can be found in organizations, in the form of a stock as well as in the form of a flow according to the findings of previous scholarly efforts (Hussanki et al. 2017; Kianto et al. 2014; Haas & Hansen, 2005).

Even though knowledge is playing a role of bridging IC and KM according to the evidence found in the literature, no attempt has been made for recognizing merely this role of knowledge in combining IC and KM in any previous literature. Most of the scholars (Hussanki et al. 2017; Kianto et al. 2014; Michele & Rogo, 2012; Haas & Hansen, 2005; Mouritsena et al. 2001) just recognized the two aspects of knowledge; static and dynamic; in their research studies, which had different research objectives.

Therefore, it is identified that no research studies were undertaken to answer purely the research question of; whether knowledge is able to combine IC and KM? and how does knowledge combine IC and KM?

Hence, this review paper is able to fill this literature gap by answering the above two research questions with the support of the evidence found in the previous literature. Thus, the objective of this review study is to explore the ability of knowledge in combining IC and KM and to recognize the role of knowledge in combining IC and KM of an organization.

Literature review, which was based on the traditional narrative method was conducted to ensure the theoretical relationship among the knowledge, IC and KM and how knowledge is able to combine the IC and KM since no review was conducted

so far directly to address this phenomena. It is imperative to recognize first and foremost whether the theoretical relationship can be ensured through the literature before moving into an empirical test. Because, the findings of this literature review will help to identify the research gap to be filled through an empirical analysis.

This identification is vital to several parties in several ways. This review would be a good source for future researchers who are interested in undertaking research studies in IC and KM discipline. Further, corporate managers could identify the role of their organizational knowledge on their most important strategic assets (Riahi- Belkaoui, 2003; Zack, 1999; Mouritsena, 1998), i.e., IC and KM and accordingly, they will be able to formulate the corporate strategies in order to manage their organizational knowledge to get the maximum benefit from their IC and KM. Moreover, the conclusion of this review would add new knowledge to the IC and KM literature by bridging the existing literature gap.

The outline of the rest of this article is; the next section will be the literature review including theoretical reflection on knowledge and KM, and identification of IC; the next section is the discussion elaborating how IC and KM are linked through knowledge with the help of prior empirical evidence, and the last section would be the conclusion of the review.

2. Literature Review

2.1 What is Knowledge?

Defining knowledge is debatable not only in the 21st century but also in the time of the classical Greek period (Alavi & Leidner, 2001). Nonaka (1994) used the traditional epistemology and adopted the traditional definition of knowledge as "justified true belief." Further, he emphasized that knowledge has a multidimensional meaning, and thus, knowledge is a multifaceted concept. Bontis (1999) identified knowledge as the only meaningful resource in today's business world, according to the Management Guru Peter Drucker.

Bontis (1999) elaborated that the assumption of scarcity in the Economic theory cannot be applied for organizational knowledge, even though the knowledge is considered as a resource within the organization. When the supply of knowledge is increased, the more value the knowledge is. It is inconsistent with the economic theory. Moreover, there is no evidence to find that the demand for knowledge decreased.

According to Hussi (2004), knowledge is the capacity to act. Moreover, knowledge has four characteristics; first, knowledge is tacit by inherently, thus, it is difficult to describe in words; second, knowledge is action-based one; third, knowledge is held by rules and, finally, knowledge is a continuously evolving concept (Sveiby, 1997). Knowledge is articulated in the forms of products, services, and systems of an organization (North & Kumta, 2018).

Out of many classifications of knowledge, the most prominent classification is; tacit knowledge and explicit knowledge (Mhedhbi, 2013; Yusof & Bakar, 2012; Rangachari, 2009; Nonaka, 1994). Tacit knowledge, which is also known as ‘learning by doing’, is based on individuals' perceptions and values. Therefore, it is difficult to find any printed or non-printed sources within an organization for tacit knowledge. On the other hand, explicit knowledge could be communicated and, thus, could be formally organized. The major difference between tacit and explicit knowledge is; explicit knowledge in the organization can be recognized through communication, while tacit knowledge can be identified through the application (Yusof & Bakar, 2012). According to North & Kumta (2018), if knowledge is an iceberg, the small visible portion of the iceberg on top of the sea is the explicit knowledge, whereas the big part of the iceberg, which is hidden at the bottom of the sea, is the tacit knowledge.

Four perspectives of knowledge have been elaborated by Alavi & Leidner (2001) as; knowledge is an attitude, knowledge is an object, knowledge is a process, and finally, knowledge is a way of access to information. Similarly, knowledge, information, and data are different concepts, but they are interrelated. Tian et al. (2009) distinguished data, information, and knowledge. Data refers to the raw facts, which can convert into information after placing into a framework and combining with meaningful structures. Information, in contrast, can be converted into knowledge after combining it with experience and judgement. Thus, it proves that data is the prerequisite for information, and information is the prerequisite for knowledge. This view supports the argument of the difference among data, information, and knowledge, though they are related concepts.

Information is transformed into knowledge after it is administered in the minds of individuals, and on the other hand, knowledge is considered as information after it is expressed and offered in the form of symbolic forms, such as text, graphics, or words (Alavi & Leidner, 2001). This view implies that the two-way relationship of knowledge and information, i.e., information can be converted into knowledge, and also knowledge can be converted into information.

2.2 Intellectual Capital

The term 'Intellectual Capital' is first invented by John Kenneth Galbraith in 1969. He defined the term IC as "intellect, knowledge, skills and brainpower activity that whenever employed, will create value" (Singh & Rao, 2016). Yalama & Coskun, (2007) reported that the first IC office was introduced by Scandia in 1991, and Dow Chemical earned the first additional profit from IC in 1993. Thus, IC has a long history of more than a half century, and it is an evolving concept specially in the knowledge and information era.

Though the IC has a comprehensive history and is still an evolving concept, no standard definition for IC has been presented by the IC scholars. Thus, the definition of IC is yet elusive. According to Cabrita & Vaz (2005), three characteristics can be identified in the definitions of IC found in the IC literature as; "intangibility; knowledge which can create value and impact of combined practice." Further, Bontis & Cabrita (2008) also recognized three features of IC; "intangibility, ability to create value and the growth effect." These characteristics highlight that IC is an intangible item which has an ability to create value for business organizations. However, several definitions for IC can be caught from the IC literature, though there is no universally accepted general definition for IC.

IC is an asset in a firm but not recorded in its balance sheet. But IC is viewed as a crucial factor that affects to the firm's future value (Yalama & Coskun, 2007). 'IC is the variance between a company's market value and book value' (Yates-Mercer & Bawden 2002; Mouritsena et al. 2001; Edvinson & Malone, 1997; Sveiby, 1997) is a prominent definition found in the literature. IC is the summation of all the intangible and knowledge-based assets that a firm can use in its productive processes for value creation, according to Kianto et al. (2014). Moreover, for Bontis & Cabrita (2008), IC is the knowledge asset that can be converted into value. IC is the knowledge that persons put into the development in their own firms (Hejase et al. 2016). The total knowledge assets that a firm possesses or controls, which can take competitive advantages to the firm and create great value (Si, 2019).

IC consists of three components; human capital, Organizational/structural capital, and relational capital (Hejase et al. 2016; Bchini, 2015; Cricelli et al. 2014; Demartini and Paoloni, 2013; Jardon and Susana, 2012; Molodchik et al. 2012; Kim et al. 2011; Seleim & Khalil, 2011; Choong, 2008). Human capital means employees in an organization and tacit knowledge imbedded in the employees in the

organization, structural capital refers to the explicit knowledge enclosed in the organization and relational capital contains organizational relations and knowledge sharing with organizational external stakeholders (Cricelli et al. 2014).

2.3 Knowledge Management

Knowledge is viewed as a key success factor in a firm, which directs firm to obtain sustainable competitive advantages. But, in contrast, it might be outdated and unworkable if it is not well managed. Thus, it is imperative to introduce appropriate systems for managing organizational knowledge formally (Haa et al. 2016).

KM was recognized in 1990s as a means of computer application to store and retrieve information. But, the scholars refused that view and supported the view of KM is a perception pertaining to organizational management, strategy, and innovation (Wang, 2011; Wigg, 1997; Sveiby, 1997; Nonaka, 1994). However, Despres & Chauvel (1999) presented very interesting but, puzzling view regarding KM. KM is considered plausibly as an ambiguous thing because defining knowledge is a difficult task since ‘knowledge is everything as well as nothing.’

KM is a system that joins in people, processes, and technology to attain sustainable outcome by enhancing performance through learning (Gorelick & Tantawy-Monsou, 2005). Chen & Mohamed (2007) presented a similar view on KM as ‘the process of leveraging organizational knowledge to deliver a long-term competitive advantage.’ Further, KM is ‘a process of planning, organizing, motivating and controlling of people, processes and systems in a firm in order to confirm the effective utilization of knowledge related assets in the firm’ according to Rajesh et al. (2011). Haa et al. (2016) describe KM is as a firm’s ability to obtain the knowledge, to convert it into new strategy, to apply it and to protect it. Moreover, KM is recognized as a process comprised of both ‘top-down’ managerial activities and ‘bottom-up’ individual activities within a firm (Wigg, 1997).

2.4 Theoretical Underpinning on the relationship among Knowledge, IC and KM

The major two theories recognize the relationship among knowledge, IC and KM. Knowledge based View (KBV) and Intellectual Capital based View (ICBV) are the foremost underpinning theories which support to the argument of the current study, i.e. knowledge has an ability to combine IC and KM. Both KBV and ICBV describe that intangible assets of a firm are based on knowledge and its usage. According to the

KBV, knowledge is presumed to be vital for value creation, and thus, it is crucial to investigate the organizational knowledge from two parallel facets; static and dynamic, i.e. IC and KM (Ujwary-Gil, 2017). KBV of the firm origins the relationship between IC and KM of a firm (Hsu & Sabherwal, 2011).

The IC literature and KM literature speak on the corresponding features of the KBV of the firm (Hussinki et al. 2017). KBV stresses that, the firm's performance is based on the way that the firm is creating, developing, distributing and using the knowledge (Seleim & Khalil, 2011). This highlights how knowledge can be in the form of both IC and KM. Further, KBV suggests a tradeoff between knowledge and KM. Knowledge acts as the base for KM, while, KM develops and strengthens knowledge resources, which are the organizational IC (Hsu & Sabherwal, 2012). ICBV highlights the stocks and flows of intangible assets in an organization, which supported to the two aspects of knowledge I the current study (Youndt et al. 2004 as cited by Peng, 2011).

3. Discussion

3.1 The link between Intellectual Capital and Knowledge Management through Knowledge

Knowledge-based view explains that the differences in performance of organizations happen due to their different knowledge resources and different management methods of knowledge (Kianto et al. 2014). Thus, knowledge is a leading factor affecting organizational performance. Hence, organizational performance is increasingly recognized as a knowledge-based matter in an organization. Further, IC literature and KM literature are the major two academic dialogues that are paying attention to organizational knowledge since these two kinds of literature are the main players in the knowledge-based view of the organizations. The main concern is that IC literature concerns the intangible resources of the companies, whereas KM literature addresses the ways and means of managing these intangible resources. Therefore, this is the simple fact to recognize the link between IC and KM.

The knowledge-based view elaborates knowledge as an imperative resource for the organization, and knowledge-based resources include knowledge, skills, and capabilities (Farooq, 2018). This opinion on knowledge-based resources is consistent with what John Kenneth Galbraith defined the terminology of IC in 1969 as "intellect, knowledge, skills and brainpower activity," as cited by Singh & Rao (2016). The

identification of the knowledge-based resources by the knowledge-based view supports the definition of IC. It emphasizes that knowledge and IC have a relationship.

Cricelli et al. (2014) presented a wide-ranging elucidation for knowledge as it relates to both human resources and intellectual assets in an organization. The most prominent classification of knowledge is tacit knowledge and explicit knowledge (Mhedhbi, 2013; Yusof & Bakar, 2012; Rangachari, 2009; Nonaka, 1994). Cricelli et al. (2014) identify tacit knowledge within the employees as one part of the human capital component of IC and organizational explicit knowledge is recognized as the structural capital component of IC. And also, Mhedhbi (2013) supports this idea by identifying tacit knowledge is as represented by organizational human capital and the implicit knowledge is represented by organizational structural capital. Thus, it infers the link between knowledge and IC since IC components reflect the tacit part and explicit part of organizational knowledge. Therefore, it proves that knowledge can influence the organizational IC.

3.2 Diverse Roles of Knowledge in combining the IC and KM

This section depicts the various arguments found through the review of extant literature on the ability of knowledge to combine the IC and KM and the different roles of knowledge in bridging the IC and KM. Thus, the critical examination of the existent literature is presented with the evidence form the IC and Km literature.

3.2.1 Are Static and Dynamic Aspect of Knowledge Similar to the Storage and Usage of Knowledge?

Knowledge is considered as the major source of value of a company based on the knowledge-based view. Hence, a company's value creation is determined by mainly on company's capability to store and use knowledge. Thus, it highlights the importance of IC, i.e., the store of knowledge and KM, i.e., the use of knowledge (Wang et al. 2014). This is one of the shreds of evidence to prove the ability of knowledge to combine the IC and KM. IC is identified as the store of knowledge and KM is identified as the use of knowledge. Here, it is evidenced that, IC and KM together can create value for the company's stakeholders, or in other words, there should be an organizational ability both to store the knowledge and also to use the knowledge.

Further, this view presents a different angle to look at the relationship between IC and KM, which is created through knowledge. At this point, the IC is viewed as the

storage of organizational knowledge and KM is regarded as the usage of knowledge. This insight is consistent with the opinion of Kianto et al. (2014), i.e., different knowledge assets and different management approaches of knowledge, which is the foundation of company performance. Knowledge is stored in these knowledge assets, which are explained by the concept of IC. Usage of knowledge concerns the management approaches and methods of knowledge which are represented by KM. Therefore, two views of these two scholars emphasize that the organizational knowledge is playing an important role of combining IC and KM within an organization. It further emphasizes that IC and KM were born from knowledge. Without knowledge, there is no emergence of the concepts of IC and KM. Therefore, knowledge is similar to the mother of IC and KM.

Furthermore, Kianto et al. (2014) concluded that organizational knowledge contains two aspects, which are; static and dynamic. The organizational knowledge stock is represented by the static aspect of knowledge which is defined as the IC, and the knowledge flow is viewed as the dynamic aspect, which is known as the KM. The idea of Kianto et al. (2014) is supported by Gorelick & Tantawy-Monsou (2005), Michele & Rogo (2012), Mouritsena, et al. (2001), Hussinki et al. (2017), and Haas & Hansen (2005).

Gorelick & Tantawy-Monsou (2005) stress the organizational knowledge as a stock as well as a flow, supporting the view of two aspects of knowledge which are IC, the stock of knowledge and KM, the flow of knowledge. Further, Michele & Rogo (2012) similarly indicated the static and dynamic perspectives of organizational knowledge. According to their views, the static perspective of the organizational knowledge is understood as the IC, whereas the KM is viewed as the dynamic aspect of organizational knowledge. Therefore, under the static aspect, intangibles denote the existing level of knowledge within the organization (stocks); under the dynamic aspect, intangibles indicate the product of knowledge processes in the stock interactions (flows).

Moreover, Mouritsena et al. (2001) state that IC statements prove the link between IC and KM, in which IC is the static aspect of knowledge (stock of knowledge) and KM is the dynamic aspect of knowledge (flow of knowledge). According to Hussinki et al. (2017), IC is often considered as a static or stock point of view, while KM is more understood as a dynamic or process point of view. Haas &

Hansen (2005) also indicate that, IC and KM have distinct nature, and hence might be viewed as knowledge stocks and processes, respectively. Therefore, to gain more effective results from the IC aspect, it must be managed well through KM aspects because IC is not a dynamic process and it is purely a static or stock of knowledge (Hussinki et al. 2017).

The above opinion of static aspect of knowledge and dynamic aspect of knowledge (Hussinki et al. 2017; Kianto et al. 2014; Michele & Rogo, 2012; Gorelick & Tantawy-Monsou, 2005; Mouritsena et al. 2001) provides an insight to recognize the role of knowledge in combining IC and KM in an organization. Knowledge stock is represented by the IC and the knowledge flow is represented by the KM. on the other hand, the static aspect of knowledge is the IC and the dynamic aspect of knowledge is the KM. Thus, the knowledge can be identified as the combinatory role between IC and KM within an organization.

3.2.2 Exploitation and Exploration of Knowledge

Further, another view on the ability to combine the IC and KM by the organizational knowledge is presented by Zack (1999) and Farooq (2018). Here, the knowledge stock is recognized as the exploitation of existing knowledge, and the knowledge flow is viewed as the exploration of new knowledge. Thus, these thoughts draw a different picture of the combination of IC and KM. The static aspect of organizational knowledge, which is denoted by the knowledge stock and branded as the IC is perhaps the exploitation of existing knowledge. Conversely, the dynamic aspect of organizational knowledge, which is demonstrated by the knowledge flow and known as the KM is feasibly the exploration of new knowledge. These opinions on organizational knowledge create a different view on the ability to link IC and KM by the knowledge. Accordingly, these views argue whether the IC engages with the existing knowledge and whether the KM works with the new knowledge. This is rather a different idea from what several scholars (Hussinki et al. 2017; Kianto et al. 2014; Michele & Rogo, 2012; Gorelick & Tantawy-Monsou, 2005; Haas & Hansen, 2005; Mouritsena, et al. 2001) proposed. They discuss the static and dynamic aspects of knowledge, but they do not emphasize clearly the nature of the knowledge, whether the knowledge is the existing one or new one or both. Thus, this conflicting thought of Zack (1999) and Farooq (2018) creates another dilemma of whether IC and KM is linked through the existing knowledge or new knowledge. However, this problem is not addressed in this review study because it is beyond the objectives of this review study.

Marr et al. (2003) further elaborated the combination between the two concepts of IC and KM through knowledge. They described KM as the collective terminology showing the processes and practices executed by the firms to enrich their value through illuminating the effectiveness of producing and application of IC in the firms.

3.2.3 The Role of Knowledge in Traditional Epistemology and Knowledge Creation Theory

Some contradictory ideas to the view of static and dynamic aspects of knowledge are also found in the literature. One such idea is from Nonaka (1994), stating that the variance between knowledge from the traditional epistemology viewpoint and knowledge from knowledge creation theory. The traditional epistemology viewpoint stresses the absolute, static and non-human nature of knowledge, while the knowledge creation theory indicates knowledge as a dynamic human process of justifying personal beliefs (Nonaka, 1994). Therefore, one view supports the static aspect of knowledge and other one supports the dynamic aspect of knowledge. No perspective is identified by Nonaka, (1994) to support both aspects of knowledge, indicating that knowledge can have only one aspect at once. It does not agree with the view of static and dynamic aspects of knowledge, though most of the scholars support the view of both static and dynamic aspects of organizational knowledge.

3.2.4 Knowledge is only a Dynamic Aspect

Another conflicting view to the static and dynamic aspects of knowledge is found in the literature. Based on the Strategic Knowledge Framework, Zack (1999) states that, knowledge is not a static aspect and it a dynamic one. The opinion of Zack (1999) in relation with knowledge is only as a dynamic one and not as a static one is opposed to the idea of Hussinki et al. 2017; Kianto et al. 2014; Michele & Rogo, 2012; Gorelick & Tantawy-Monsou, 2005; Mouritsena et al. 2001. Their idea is that there are two organizational knowledge perspectives as; static and dynamic, and also IC is the static aspect while KM is the dynamic aspect of organizational knowledge.

Thus, different views about the ability of knowledge to combine the IC and KM are found from the literature. It was found through this review study that six major views regarding the link between IC and KM and the ability to of knowledge to combine the IC and the KM.

The following table summarizes those views on the ability of knowledge to combine the IC and the KM and how does knowledge can combine IC and KM.

Table 01: Views on the Ability of Knowledge to link IC and KM

No.	View	Source
1	IC is the static aspect/stock of knowledge and KM is the dynamic aspect/flow of knowledge	Hussinki <i>et al.</i> (2017); Kianto <i>et al.</i> (2014); Michele & Rogo, (2012); Gorelick & Tantawy-Monsou, (2005); Mouritsena, <i>et al.</i> (2001).
2	Store of knowledge is the IC and use of knowledge is the KM	Wang <i>et al.</i> (2014)
3	Knowledge stock (IC) is the exploitation of existing knowledge and the knowledge flow (KM) is the exploration of new knowledge	Zack (1999) and Farooq (2018)
4	Knowledge is only a dynamic one	Zack (1999)
5	The traditional epistemology viewpoint stresses the absolute, static and non-human nature of knowledge, while the knowledge creation theory indicates knowledge as a dynamic human process of justifying personal beliefs	Nonaka (1994).
6	KM denotes the process and practices executed by the companies to enhance their value through enlightening effectiveness of production and application of IC	Marr <i>et al.</i> (2003)

4. Conclusion

In the 21st century, the business society lives in the knowledge and information based economy and business environment. Knowledge is recognized as the most imperative asset, and knowledge-based assets will be the major source of success in the 21st century (Wiig, 1997). Thus, knowledge is playing a major role in the information and knowledge based current business society. The knowledge-based view proposed that, the different organizational knowledge and the diverse methods of managing that knowledge affect to the inconsistent organizational performance of various organizations (Kianto et al. 2014). Therefore, knowledge becomes a significant factor affecting organizational performance, and hence, knowledge is paid

great attention by the business owners, other stakeholders, and scholars. To the extent that the knowledge-based view is considered, IC and KM can be identified as the major concepts related with organizational knowledge. It is evidenced by the literature (Moustaghfir & Schiuma, 2013; Ghosh and Mondal, 2009) that the IC and KM have a relationship with the most vital assets in the organizations in the 21st century, i.e., knowledge.

Thus, it is vital to identify the relationship exist among knowledge, IC and KM as well as the ability to link IC and KM through knowledge. However, an untouched research gap was found in identifying this ability of knowledge in combining both IC and KM in the IC and KM literature, though some scholars paid attention to identifying this relationship via their scholarly effort, which had other specific research objectives. Hence, no evidence was found from the literature, which has the mere research objective of finding out the ability of knowledge for combining IC and KM. Therefore, the objective of this review study was to recognize the ability of knowledge in linking the IC and KM and to identify how the knowledge link IC and KM.

Accordingly, this review study tried to answer two research questions; whether knowledge is able to combine IC and KM? and how does knowledge combine IC and KM? It was able to answer to these two research questions after reviewing the previous scholarly efforts in the IC and KM literature. When answering the first research question, it was found that there is an ability of knowledge for combining IC and KM. It was supported by Farooq (2018), Singh & Rao (2016), Kianto et al. (2014), and Cricelli et al. (2014).

The answer of the first research question addressed through this review presents both practical and theoretical implications. Since the knowledge has a capacity to connect IC and KM in the organizations (Cricelli et al. 2014; Kianto et al. 2014; Singh & Rao, 2016; Farooq, 2018), and also knowledge has been recognized in the literature as the leading factor for organizational performance and value creation (Wiig, 1997; Zack, 1999; Yates-Mercer & Bawden, 2002; Haa et al. 2016), the managerial attention can be given more to the organizational knowledge, specially in formulation of the strategies for enhancing the organizational performance. Moreover, this answer provides a theoretical implication, ensuring the ability of knowledge in combining the organizational IC and KM, which supports specially for the knowledge based view and Intellectual Capital based View.

The second research question of how does knowledge combine IC and KM was answered through the views of many scholars in IC and KM arena (Farooq, 2018; Hussinki et al. 2017; Kianto et al. 2014; Wang et al. 2014; Michele & Rogo, 2012; Gorelick & Tantawy-Monsou, 2005; Marr et al. 2003; Mouritsena et al. 2001; Zack, 1999; and Nonaka, 1994). Six major, as well as conflicting ideas, were explored through the literature when answering this question. These opinions are summarized in Table 01. Out of these conflicting ideas and opinions, it was found one opinion which most of the scholars have supported. It is the static and dynamic aspect of knowledge. The static aspect of knowledge or the knowledge stock is substituted for IC, whereas the dynamic aspect of knowledge or the knowledge flow is substituted for KM.

The answer for the second research question of this review study provides both practical and theoretical implications. Several roles of knowledge in combining the organizational IC and KM, which were recognized in this review based on the extant literature supports the organizations to identify their knowledge in the form of IC and to manage the knowledge in well manner in the form of KM practices. Thus, the organizations are capable of identifying the importance of their IC stocks and KM processes within the organization. On the other hand, the answer for this second research question confirms the role of knowledge in combining the IC and KM, which is proposed in Knowledge based View and Intellectual Capital based View.

Thus, it can be reached to three major conclusions through this review study. First, the knowledge has an ability to combine IC and KM; second, the static aspect of knowledge is the organizational IC, and the dynamic aspect of knowledge is the organizational KM, and finally, deprive of knowledge will lead to a lack of both IC and KM within an organization.

This review study identifies several implications for future studies. First, the research gap identified for this review can be used in the future studies as well. Second, to fill the identified research gap, the empirical studies can be undertaken. Third, the same ideology can be addressed using a systematic literature review which gives more reliable outcome. Finally, this review is able to suggest the research question to be addressed in the future research studies as; to what extent knowledge can be used to combine the IC and KM in an organization? Thus, the future research studies would be able to provide more empirically based evidence on the role of knowledge in combining the IC and KM within an organization.

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