Role of Knowledge Management in Small and Medium Enterprise Performance

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Abstract: Aim-The aim of this study is to bring a unified framework that integrates Knowledge Management Process (KMP), Innovation Capability(IC), Internal Social Capital(ISC), and Organizational Performance(OP) and empirically explore the framework in the context of SMEs. These small and medium enterprises are highly relevant because of their economic and social importance globally, as they constitute nearly 90% of all firms in OECD countries, 70% of jobs, and 50-60 % of value creation. Design/ methodology/ approach- The study addressed the CEO and managers of Small and medium enterprises with the help of a designed questionnaire. The study being exploratory in nature, and employs Partial Least Square-Structural equation modeling (PLS-SEM) using Smart PLS. Practical Implications- SMEs, compared to large firms' esp. in developing economies, require different strategies to sustain and perform in the long term. Therefore, it is imperative that these enterprises begin processing knowledge management for the sake of overall organizational performance. Originality/ Value- The existing research has explored the phenomenon in the context of large enterprises, and this study explored the comprehensive framework in SMEs. The study extends the previous literature by understanding the role of Internal Social Capital in enhancing organizational performance through the knowledge Management Process.

Keywords: Knowledge Management Processes, Innovation Capability, Internal Social Capital, Organizational performance

1. Introduction

Knowledge Management (KM) has received significant attention from both researchers and practitioners. They recognized the importance of managing knowledge in a knowledge-based economy. Researchers have confirmed the vital role of knowledge in the modern economy and creative industry, emphasizing the importance of knowledge as one of the primary resource of the modern economy(Manfredi Latilla *et al.*, 2018). Despite the significant time and financial commitment in state-of-art technology, it has been estimated that at least $31.5 billion are lost per year by Fortune 500 companies which is primarily because of the failure to manage and share Knowledge (Wang and Noe, 2010). Thus, knowledge is a vital resource for an organization that provides a sustainable competitive advantage in a competitive and dynamic economy(Grant, 1996; Spender and Grant, 1996; Wang and Noe, 2010).

Knowledge Management, in general, refers to the processes and practices conducted in a firm to unleash its intellectual potential by enhancing the effectiveness and efficiency of the management(Andreeva and Kianto, 2012). The collective knowledge within the organization helps to compete. However, in this highly competitive environment and diverse customer demand, KM no longer stands out as a sufficient factor to provide a competing edge against its rivals. The role of knowledge is still ambiguous(Liao, Fei, and Chen, 2007; Shahzad *et al.*, 2016). Some studies suggest innovation is a crucial driving factor in organizational performance(Huang and Li, 2009; Migdadi, 2020).

Innovation is an extensive term that includes different types of innovation and stages of the innovation process(Gopalakrishnan and Damanpour, 1997). Innovation can also be regarded as organizational capability as it deploys resources with a new ability to create value(Yang and Wan, 2004; Saunila, 2016). Therefore, innovation capability is vital for firms, especially small organizations, for survival and sustained growth in the long term(Liao, Fei, Chen, 2007; Le and Lei, 2017). Innovation capability has been regarded as a multi-dimensional construct that includes innovative output in the form of products, services, managerial practices, and marketing strategies(Weerawardena, 2003; Popadiuk and Choo, 2006; Andreeva and Kianto, 2012; Ritala *et al.*, 2015).

Several studies asserts that KMP do not directly influence Organizational Performance(López-Nicolás and Meroño-Cerdán, 2011; Migdadi, 2020). There are other mediating and moderating variables that impact the KMP and OP. However, according to Z. Wang et al.(2016 a, b), the existing body of literature is almost silent about the role of mediators and moderators in KMP and OP. Though, firms' intellectual aspect needs to focus on three main areas: intangible assets(Knowledge), the firm's competencies and capabilities(innovation

capability), and the social environment in which knowledge processes occur(Martínez-Cañas, Sáez-Martínez, and Ruiz-Palomino, 2012).

The social environment plays a key role as innovation is not a discrete event but a result of interactions among the knowledge possessed by diverse actors within the organization's boundaries (Hansson et al., 2005). Nahapiet & Ghoshal (1998) defines Internal Social capital as ''the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit''. Thus, social capital is a resource and factor that provide access to resources. Hence, researchers emphasize the significance of social capital dimensions for innovation (Zheng, 2008).

Many studies in the past have explored the several dimensions of social capital in the domain of knowledge sharing and creation(Mcfadyen and Cannella, 2004; Hansen, Mors, and Løvås, 2005; Reinholt, Pedersen, Foss, 2011; Tsai and Cheng, 2012; Xiang, Lu and Gupta, 2013; Migdadi, 2020; Gubbins and Dooley, 2021). However, very few have talked about its role in the context of SMEs, especially in developing economies. This study will explore the quest of the past researchers by incorporating all three dimensions of the internal social capital in the context of Indian SMEs.

This phenomenon is well explored in large organizations, and scholars argue that small and medium enterprises could not manage knowledge because of various organizational constraints(CN Wee and Y.K. Chua, 2013; Sartori *et al.*, 2020). Most SMEs include no explicit policy aimed at strategic KM and keep KM at an operational level (e.g., level of systems and instruments). Social interactions in SMEs are more frequently observed in inter-firm as compared to intra-firms. Knowledge Creation within these small firms is unconventional, and sharing of tacit knowledge is found to be less formal and systematic as compared to large firms. (McAdam and Reid, 2001; Tunc Bozbura, 2007; Hutchinson and Quintas, 2008; Andreeva and Kianto, 2012; CN Wee and Y.K. Chua, 2013; Sartori *et al.*, 2020).

These small and medium enterprises are highly relevant because of their economic and social importance globally, as they constitute nearly 90% of all firms in OECD countries, 70% of jobs, and 50-60 % of value creation. If an informal business is considered, it can account for up to 50% of GDP(OECD, 2019). Hence, this study will attempt to understand the role of KMP, IC, and SC on SMEs' performance, especially in the Indian context. SMEs in India have a significant contribution to local production and export. These enterprises are generating nearly 80 million employment opportunities with 36 million units. They add nearly 8% to GDP and 40% to Indian exports. The share of manufacturing MSMEs is around 31%, and service MSME includes nearly 33% (MSME Annual Report, 2020-21).

Based on the gap identified in previous research, this study wants to explore the relationship between the Knowledge management Process, Innovation Capability, and Internal Social Capital in SMEs Performance. Few studies have discussed this phenomenon in the SME context, especially in developing economies. Thus this research is an addition to the existing literature on Knowledge management and SMEs Performance.

1.1 Research Questions

What is the impact of Knowledge Management on Innovation capability?
What is the impact of Knowledge Management on SMEs' Performance?
Do Innovation capability in SMEs enhances the positive effect of knowledge Management and SMEs Performance?
Does Social Capital moderates the relationship between Knowledge Management and SMEs Performance?

1.2 Research Objective

1. To understand the impact of Knowledge Management on Innovation Capability.
2. To understand the impact of Knowledge management on SMEs performance.
3. To understand the role of Innovation Capability between KMP and SMEs performance.
4. To understand the role of Social Capital as a moderator between the Knowledge Management Process (Knowledge Creation & Sharing) and SMEs' Performance.

2. Literature Review & Hypothesis

2.1 Knowledge Management and Innovation Capability

Based on the Knowledge-based View, Several academicians have connected knowledge as a resource for innovation and claimed that these resources determine an organization's capability for innovation.(Gopalakrishnan and Damanpour, 1997; Darroch and McNaughton, 2001; Darroch, 2003; Ben Zaied, Louati and Affes, 2015; Migdadi, 2020). Several studies have revealed that, in general, Knowledge Management processes (Al-Sa'di, Abdallah and Dahiyat, 2017; Migdadi, 2020)- such as Knowledge creation and sharing (Le and Lei, 2017; Bereznoy, Meissner and Scuotto, 2021; Gubbins and Dooley, 2021), Knowledge sharing, application and storage (Lee *et al.*, 2013), and Knowledge creation, documentation and storage, sharing, and acquisition (Andreeva and Kianto, 2012; Migdadi, 2020)- have positive impacts on firm's Innovation performance. Hence, based on past research, the following is the first hypothesis:
H1: Knowledge Management Processes have a significant positive influence on Innovation capability.

In the following each section we will explore each KMP sub-dimension and how it impact the innovation capabilities leading to the hypothesis.

2.1.1 Knowledge Creation and Innovation capability.

Knowledge Creation is defined as a process that involves tacit and explicit knowledge. Tacit is closely related to "knowledge exploration- the pursuit of new knowledge, of things that might come to be known. While explicit involve with knowledge exploitation- the use and development of things already known(Levinthal and March 1993)". Several studies predict with empirical validation that Knowledge creation positively impacts innovation and improves performance (Laeeque and Babar, 2017; Santos *et al.*, 2021). Empirical research emphasizes the positive relation between Knowledge creation and product and process innovation(Smith, Collins and Clark, 2005), product and market performance (Lai *et al.*, 2014), and organization innovation performance(Andreeva & Kianto, 2012; Ben Zaied et al., 2015; Ngah et al., 2016). Hence, we present the sub-hypothesis:
H1.1 There is positive impact of Knowledge creation on IC.

2.1.2 Knowledge Sharing and Innovation Capability

"Knowledge sharing process can be defined as the process through which employees mutually exchange knowledge and jointly create new knowledge" (Van den Hooff and de Leeuw van Weenen, 2004; Van Den Hooff and De Ridder, 2004). A recent study conducted by Vătămănescu et al. (2020) on 102 European SMEs has found a significant positive impact of knowledge sharing, which enhances their innovative performance in emerging economies. While, Podrug et al. (2017) attempted to empirically distinguish the influence of individual, organizational, and technology factors on Knowledge sharing processes. Past studies suggest that employee willingness to donate and collect knowledge enables the firm to improve its innovation capability. (Van den Hooff and de Leeuw van Weenen, 2004; Lin, 2007; Saenz, Podrug, Filipović and Kovač, 2017; Ali *et al.*, 2019; Vătămănescu *et al.*, 2020; Bereznoy, Meissner and Scuotto, 2021; Gubbins and Dooley, 2021). Hence we introduce the following sub-hypothesis:
H1.2. There is positive impact of knowledge sharing on IC.

2.1.3 Knowledge Storage & Documentation and Innovation Capability

Organization performance is path-dependent. Past experience of individuals and success co-evolved. Walsh & Ungson (1991) offer a deeper insight into how former experiences of a company can affect its present decision-making. Gunsel et al. (2011) have found several studies assuming that organizational knowledge influences the innovation process. Hence, retrieving and manipulating the firm's experience is vital to avoid contingencies and exploit valuable old Knowledge (Rabeh, Jimenéz-Jimenéz, and Martínez-Costa, 2013). An organization's intellectual capital relies on the intelligence and creativity of its employees(Mumford, 2000). Therefore, I formulate the following sub-hypothesis:
H1.3. There is positive impact of knowledge storage and documentation on IC.

2.1.4 Knowledge acquisition and innovation capability.

Acquisition of Knowledge from external resources enables individuals to develop new and recreate the existing Knowledge (Chen and Huang, 2009). Several studies have investigated the KA and innovation relationship and conclude with the empirical investigation that KA enhances administrative and technical innovation (Chen and Huang, 2009), product/ service innovation (Dahiyat and Al–Zu'bi, 2012), product innovation(Al-Sa'di, Abdallah and Dahiyat, 2017), new product performance (Molina-Morales, García-Villaverde, and Parra-Requena, 2014).

Y. Liao & Barnes (2015) found the significant role of knowledge acquisition in SMEs. These firms are generally characterized as having a higher ability to respond faster to changing needs, which significantly impacts innovation. Therefore, I introduce the following sub-hypothesis:
H1.4. There is a positive impact of knowledge acquisition on IC

2.2 Knowledge management processes and organizational performance

Despite getting an edge in terms of physical and financial capital, the performance of SMEs is now dependent on managing the knowledge of owners and the employees of these small firms(Man, Lau, and Chan, 2002). Hence, to enhance organizational performance, knowledge management strategies must be incorporated. The literature review of KMP predicts a positive linkage between KMP and performance. A study by Li et al.(2018) attempted to study the knowledge creation models and innovation performance during complex product system development and found that knowledge internalization by practice (KIP) is the crucial mode of knowledge creation as well as for organization high-quality performance. As we know, performance is the product of the interaction of individuals with each other and an element affecting this interaction Doğan & Doğan (2020). In their study, Z. Wang et al. (2016) also empirically tested the relation between knowledge sharing and firm performance in 89 high-tech firms in China. The research found that explicit knowledge sharing significantly impacts innovation and firm performance while tacit KS has more impact on product quality and operational performance.

According to Obeso et al.(2020), past researchers attending the relationship between knowledge acquisition and firm performance have reported a positive association (Ali et al., 2019; Ahmed et al., 2015; Tubigi and Alshawi, 2015). The result of these studies has included many performance variables such as return on sales (ROS), return on assets(ROA), and return on equity (ROE)(Choi and Jong, 2010; Migdadi, 2020). Non-financial indicators include product quality, firm productivity, efficiency, and firm process effectiveness(De Pablos, 2002; Tsai and Cheng, 2012; Migdadi, 2020). Hence empirical research has indicated that KM significantly impacts organizational performance(Andreeva and Kianto, 2012; Sartori *et al.*, 2020). Hence, I introduce the hypothesis:
H2. There is positive impact of KMP on OP.
H2.1. There is positive impact of knowledge creation on OP.
H2.2. There is positive impact of knowledge sharing on OP.
H2.3. There is positive impact of knowledge storage and documentation on OP.
H2.4: There is positive impact of knowledge acquisition on OP.

2.3 The mediating role of innovation capability

Shujahat et al. (2018, 2019) highlight that the critical component of KBV is the effective management of knowledge resources which increases innovation, which in turn augments OP. This theoretical linkage suggests the mediating role of innovation between the relationship of KM and OP, as depicted in past studies. Nawaz et al. (2014) also found in their study that KM practices contribute to increased sales through new product development, adaptations, and improvement in innovation. Ruiz-Jiménez & del Mar Fuentes-Fuentes (2013) have found that product and process innovation mediated the relationship between knowledge capability and OP. However, Maldonado-Guzmán et al. (2019), in their research, state that a limited body of knowledge currently talks about the role of innovation in the context of SMEs as compared to the large firms and found mixed results in regards to the effect of innovation capabilities have on the business performance of SMEs.

Similarly, Saunila (2016) develops a framework for improving innovation capability through performance measurement in SMEs. Therefore, based on this discussion- in order to clarify how the relationship between KMP and Performance outcome works in SMEs - this study adopts IC as a mediator between KMP and OP. Hence, I introduce the following hypothesis:
H3. Innovation capability mediates the relationship between KMP and OP

2.4 Internal Social Capital as a moderator

Socialization is the process where individuals exchange and synthesize tacit knowledge, which is eventually externalized and contributes to the group's semantic memory. As defined by Adler and Kwon (2002), internal social capital is the structure and content of relationships among the actors within a system. Nahapiet & Ghoshal (1998) defines the three dimensions of Internal Social Capital: structural, cognitive, and relational. Structural dimension refers to the connections among actors-with whom and with what frequency they share information. Individuals learn how knowledge in use may differ from formal documented practice through storytelling, reflective dialogue, and collaborative discussions.

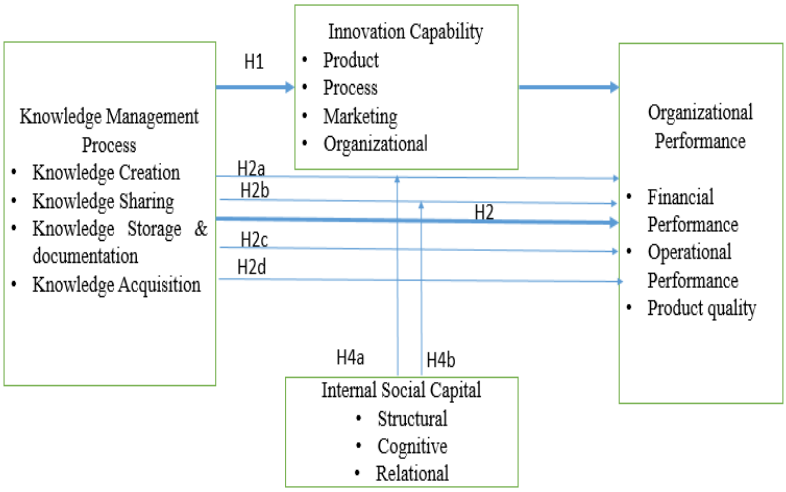
Second, the aspect of relational social capital defines the kinds of bonds that have established among people over the time through interactions. (Nahapiet and Ghoshal, 1998). Among its key attributes is the level of trust among actors(Nahapiet and Ghoshal, 1998; Leana and Pil, 2006; Claridge, 2018). Third dimension of social capital refers to the fact that as individuals interact with one another as part of a collective, they are better able to develop a standard set of goals and a shared vision for the organization—what Nahapiet and Ghoshal (1998) call the cognitive dimension of social capital.

Several authors in the past have recognized the role of coordination for the implementation of a new idea instead of a single individual. Hence, the conversion of tacit and explicit knowledge is a social process between individuals and is not confined to a single person (Popadiuk & Choo, 2006). Such coordination becomes significantly easier when individuals are connected through strong rather than weak ties (Hansen, 1999; Burt, 2001). Mura et al. (2013) also found in their empirical investigation that higher levels of perceived social capital increase the individual's propensity to translate knowledge sharing into active exploitation of knowledge. A recent study by I. Ali et al. (2018) also found a positive moderating role of social process between knowledge sharing and absorptive capacity as well as absorptive capacity and project performance. Hence based on these past discussions, I build the hypothesis:

H4a: Internal Social capital positively moderates the relationship between Knowledge Creation and organizational performance.

H4b: Internal Social Capital positively moderates the relationship between Knowledge sharing and Organizational Performance.

3. Conceptual Framework



4. Research methodology

4.1 Data collection and Sampling

Data collection will be done by the survey instrument in order to test the hypothesis of the study. The questionnaire will be distributed among the small and medium-sized firms (which include manufacturing and service sectors) in India. The study aims to cover the direct, telephonic interviews with the chief executive officer and managers of the Knowledge Intensive firms as defined by OECD with a minimum sample size of 218.

4.2 Questionnaire development and measurement

After developing the theoretical framework and, based on the review of related literature, I created an initial data collection instrument. Four professors of KM and management have reviewed the first version of the questionnaire for face validity. Their comments and suggestions regarding the questionnaire's items have been considered. Accordingly, revisions were made to eliminate ambiguities, inadequate wording, and hidden biases. KMP was measured based on the scales developed by Andreeva and Kianto (2011). All KMP (knowledge creation, sharing, storage and documentation, and acquisition) were measured through four items for each process. IC and OP were measured based on scales developed by Kafetzopoulos and Psomas (2015). Each of the IC dimensions (product, process, marketing, and organization innovation) is measured through four items. Also,

each of the OP dimensions (operational performance, financial performance, and product quality) is measured through four items. All scales used the five-point Likert scale with 5 to represent "strongly agree" and 1 to represent "strongly disagree ."The social capital scale of all three dimensions was adopted from Carr. et.al (2011).

4.3 Analytical methods

This study's research model is analyzed using a multivariate analysis technique, i.e., a partial least squares – Structural Equation Modeling (PLS-SEM). There are several reasons for choosing the suitability of this technique: the study is exploratory, the study is relatively small in the sample, the constructs in this study are both formative and reflective; the construct in this model involves considerable complexity concerning the type of relationships in the hypothesis, this study focus on the prediction of dependent variables(Richter *et al.*, 2016; Hair Jr *et al.*, 2021).

4.4 Control Variables

For this study, we have incorporated three control variables, firm size(Damanpour, 1992), Firm age(Eberhard and Craig, 2013), and industry classification(Damanpour,1992)can impact organizational performance.

4.5 Significance of the Study

This study represents one of few research projects in the innovation management field that operationalizes IC (four dimensions) and empirically explores its relationship with the three dimensions of OP in the SME context. The following way in which the present study contributes to the literature is that it examines relationships between KMP, organizations' IC, and their performance dimensions together in a single model. To the best of my limited knowldege based on the extensive review of the past research, this is also one of few empirical attempts at defining and confirming the causal path between "KMP," "IC," firms' "financial performance," "operational performance," and "product quality. This study finally extends the existing theoretical and practical knowledge of literature by including the role of internal social capital to understand the extent of Knowledge creation and sharing impact on the SME's Performance.

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