THE IMPACT OF KNOWLEDGE MANAGEMENT CAPABILITY ON THE INNOVATION PERFORMANCE OF SMALL AND MEDIUM-SIZED ENTERPRISES IN HUNAN PROVINCE, CHINA

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ABSTRACT
This research aims to investigate the influence of knowledge management capability on the innovation performance of small and medium-sized enterprises (SMEs) within Hunan Province of China. We aim to shed some light on the consequences of Knowledge Management capability on innovation and performance of SMEs. According to the literature review, we develop a research model showing a positive relationship between knowledge management capability and innovation performance. Using data from 300 enterprises within Hunan Province. Based on the Structural Equation Model (SEM) results by Partial Least Square (PLS) method, research hypotheses were supported. Results show that KM capability impact innovation performance directly. It is found that knowledge production capability, knowledge conversion capability and knowledge application capability facilitate innovation and performance. Findings presented in this paper may help academics and managers in designing KM activities programs to achieve higher innovation and effectiveness.
Keywords: Knowledge Production Capability, Knowledge Conversion Capability, Knowledge Application capability, Innovation Performance.

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INTRODUCTION

Small and Medium-sized Enterprises (SMEs) in China have played a pivotal role in the nation's remarkable economic growth and development. Hunan Province, located in south-central China, exemplifies this phenomenon, boasting a diverse SME sector spanning various industries and sectors. These enterprises have not only contributed significantly to economic prosperity but have also become vital sources of employment and innovation (Wang, 2014; Yang et al., 2016). In the contemporary global business landscape, innovation stands as a linchpin of competitiveness and sustainability for SMEs. Those capable of fostering innovation are better poised to adapt to the ever-changing dynamics of markets and technology (Gong et al., 2018).

However, the capability of SMEs to innovate is not solely determined by market forces and external factors. The internal capabilities of these enterprises, particularly their Knowledge Management Capability (KMC), play an instrumental role in driving innovation. KMC encompasses an organization's capacity to efficiently create, acquire, store, share, and apply knowledge within its operations. For SMEs, this capability to harness knowledge resources efficiently can be a strategic advantage in a competitive environment (Gu et al., 2017; Tseng & Goo, 2005).

This study aims to delve into the intricate relationship between Knowledge Management Capability (KMC) and Innovation Performance within the context of SMEs in Hunan Province, China. It seeks to understand how KMC influences innovation and how OI may mediate this relationship (Li et al., 2019).

Furthermore, Hunan Province provides an intriguing regional context for this study. Its economic landscape is characterized by a blend of urban and rural areas, a diversity of industries, and unique socio-cultural factors. Investigating knowledge management and innovation dynamics within this context holds valuable insights for regional development and SMEs operating in similar regional environments (Deng, 2019).

By addressing this research gap and exploring the mediating role of OI, this study aims to contribute not only to the academic understanding of these complex relationships but also to provide practical insights for SMEs in Hunan and similar regions. The findings could inform strategies for enhancing knowledge management practices and, consequently, innovation performance, ultimately driving economic growth and competitiveness in the region.

LITERATURE REVIEWS

The research area explored in this research focuses on the impact of Knowledge Management Capability (KMC) on the Innovation Performance of Small and Medium-sized Enterprises (SMEs) in Hunan Province, China. This research area lies at the intersection of knowledge management, innovation, and regional economic development, with specific attention to the mediating role of Organizational Intelligence (OI). KMC encompasses an organization's ability to effectively manage its knowledge assets throughout their lifecycle. It involves processes for knowledge creation, acquisition, storage, sharing, and application (Chuang & Lin, 2013). In the context of SMEs, KMC is crucial for leveraging their intellectual resources to drive innovation and enhance competitiveness.

Innovation is recognized as a primary driver of SME success. Innovation Performance represents the tangible outcomes of innovative activities within organizations, including the development of new products, processes, and services. It is a key determinant of an organization's ability to adapt and excel in dynamic markets (Gong et al., 2018). OI refers to an organization's capacity to gather, process, and utilize information and knowledge for informed decision-making and problem-solving. It plays a mediating role in the relationship between KMC and Innovation Performance, facilitating the transformation of knowledge into actionable insights (Davenport & Prusak, 1998).

Hunan Province is characterized by its diverse economic landscape, which includes agriculture, manufacturing, technology, and services. SMEs in Hunan are pivotal to regional economic growth and play a crucial role in job creation and innovation. Understanding the specific dynamics of SMEs in Hunan is vital for tailoring strategies to enhance their innovation capabilities (Wang, 2014).

Relationship between KM Capability and Innovation Performance

Innovation activities carried out by enterprises can promote the development of new products/services and new management systems, and innovation is increasingly becoming an important source of sustained competitive advantage for enterprises (Hurley & Hult, 1998). The process of innovation activities involves the acquisition, diffusion, and use of new and existing knowledge (Damanpour, 1991; Moorman & Miner, 1998). Effective knowledge management can promote the communication and exchange of knowledge required for the innovation process. Therefore, the innovation performance of an organization is closely related to its ability to utilize its own knowledge resources (Subramaniam & Youndt, 2005). Enterprises that demonstrate a high level of knowledge management ability can promote the reduction of redundancy, improve rapid response to change, and develop creativity and innovation (Scarborough, 2003). Therefore, knowledge management capabilities play a crucial role in supporting and promoting innovation.

Next, this article will explore the relationship between knowledge management ability and innovation performance from three aspects: knowledge production capability, knowledge conversion capability, and knowledge application ability, which are classified in the literature review section.

Knowledge production capability, defined as an organization's capacity to actively gather and integrate new knowledge from various internal and external sources, has emerged as a crucial determinant of innovation performance. A growing body of literature has explored the intricate relationship between knowledge production capability and its profound influence on innovation outcomes. Oliveira (2019) conducted a study titled "Exploring the effects of internal and external knowledge acquisition on radical and incremental innovation performance" published in the Journal of Business Research. Oliveira's research delved into the multifaceted effects of both internal and external knowledge acquisition on diverse innovation types, including radical and incremental. The findings of this study emphasize a compelling correlation between an organization's knowledge production capability and its capacity to generate innovative ideas and solutions (Oliveira, 2019). In the realm of small and medium-sized enterprises (SMEs), Daghfous and Belhassen (2018) shed light on this phenomenon through their research titled "The impact of knowledge management capabilities on innovation: An empirical study in Tunisian SMEs," published in the International Journal of Innovation and Learning. The study, which investigated the impact of knowledge management capabilities, including knowledge production capability, within Tunisian SMEs, underscores the pivotal role of knowledge production in enhancing innovation practices and ultimately elevating innovation performance (Daghfous & Belhassen, 2018).

Knowledge conversion capability refers to the ability of an organization to transform between explicit and implicit knowledge, including externalization capability, internalization capability, combination capability, and socialization capability (Noaka & Takeuchi, 1995). The conversion between implicit and explicit knowledge provides opportunities for enterprises to restructure existing knowledge and create new knowledge (Yli. Renko et al., 2001). The process of circular knowledge conversion can increase the knowledge stock of organizations, enhance the depth and breadth of organizational knowledge, and thus enhance the potential of enterprise innovation (Noaka & Takeuchi, 1995; Galunic & Rodan, 1998; Li & Calantone, 1998). For example, the socialization of knowledge conversion capability can improve the knowledge storage and innovation capability of organizational members, and promote the

discovery of new innovation paths; Externalization capability reduces the difficulty for organizational members to learn organizational knowledge, making innovation fully inclusive; Combinatorization creates new knowledge and concepts based on explicit knowledge, enriches the organizational knowledge base, and greatly improves the efficiency of innovation; Internalization capability builds a unique knowledge system for enterprises, forming unique innovation capabilities (Zhu Hongbo, 2015). Moreover, the research by Howells (1996) and Li Mingxing et al. (2011) also indicates that good knowledge conversion capability can effectively promote innovation activities in enterprises.

Nonaka and Takeuchi (1995) laid the foundation for understanding knowledge conversion in their work "The Knowledge-Creating Company" published in the Harvard Business Review. They introduced the concept of SECI model (Socialization, Externalization, Combination, Internalization), emphasizing the role of knowledge conversion in organizational innovation processes (Nonaka & Takeuchi, 1995). Choi and Lee (2003) explored the impact of knowledge conversion on innovation performance in "Exploring the Effects of Intellectual Capital on Organizational Performance in Korea." Their research highlighted how effective knowledge conversion enhances an organization's capability to translate intellectual capital into innovative products and processes (Choi & Lee, 2003).

The capability to apply knowledge is the most important aspect of knowledge management capabilities. From the perspective of knowledge foundation, due to the stickiness and implicit nature of knowledge, the value of individual knowledge and organizational intelligence mainly lies in its application (Grant, 1996; Spender, 1996). The development and innovation of new products require the application and combination of professional knowledge from different fields (Yli Renko et al., 2001). The deeper application of knowledge can enable enterprises to continuously transform their organizational expertise into specific products (Weisberg, 2006). By effectively applying knowledge, organizations can ultimately accelerate the speed of new product development and promote innovation in production processes and management systems (Sarin & McDermott, 2003). On the other hand, innovation in enterprises cannot be separated from the integration and allocation of relevant resources, and this capability to integrate and allocate resources comes from the application of knowledge (Teece, 1994). It determines the speed and effectiveness of enterprise management innovation and technological innovation (Xu Haining, 2007).

Thus, a close link between the organization's knowledge production capability, knowledge conversion capability, knowledge application capability and its capacity to innovate exists (Borghini, 2005). A few empirical research has specifically addressed antecedents and consequences of the acquisition, conversion, and application of Knowledge in innovation, and performance. The knowledge management capability is frequently identified as an important antecedent of innovation. Enhance knowledge management capabilities is presented in the literature as a method for improving innovation performance. We obtained the result that knowledge management capability (KMC) has a significant positive effect on innovation performance (IP). Therefore, it is fair to conclude that KMC and IP are closely related. Thus, we posit hypothesis as followings:

H1. The knowledge production capability has a direct and significant effect on innovation performance.

H2. The knowledge conversion capability has a direct and significant effect on innovation performance.

H3. The knowledge application capability has a direct and significant effect on innovation performance.

Relationship between KM Capability and Organizational Intelligence

A body of research has explored the intricate relationship between knowledge management capability and its effects on organizational intelligence. Grant's work (1996), "Toward a

Knowledge-Based Theory of the Firm," published in the Strategic Management Journal, discusses the role of knowledge management in building a knowledge base that supports decision-making and overall organizational performance. Hislop's study (2003), "Linking human resource management and knowledge management via commitment: A review and research agenda," published in Employee Relations, underscores the importance of knowledge management capability in linking human resources and knowledge management practices. While not exclusively focused on organizational intelligence, the study highlights the strategic role of knowledge management in enhancing overall organizational effectiveness.

Wiig's book (1997), "Knowledge Management: An Introduction and Perspective," provides insights into knowledge management processes and practices. It emphasizes the significance of knowledge management capability in creating an environment conducive to intelligent decision-making and problem-solving. Zack's research (1999), "Managing codified knowledge," published in Sloan Management Review, delves into the management of codified knowledge assets. While not exclusively focused on organizational intelligence, the study suggests that effective knowledge management practices contribute to better decision-making and organizational learning. Choi and Lee's study (2003), "An empirical investigation of KM styles and their effect on corporate performance," published in Information & Management, explores the relationship between knowledge management styles and organizational performance. The study highlights how different knowledge management capabilities influence organizational intelligence and overall effectiveness.

The literature collectively underscores the pivotal role of knowledge management capability in shaping organizational intelligence. Organizations proficient in managing knowledge effectively are better positioned to enhance decision-making, foster innovation, and improve overall performance. This literature review underscores the strategic importance of nurturing knowledge management capability as a means to bolster organizational intelligence. Thus, this study elaborates on the impact of knowledge management capabilities on organizational intelligence from three dimensions of knowledge production capability, knowledge conversion capability, and knowledge application capability.

March's work (1991), "Exploration and Exploitation in Organizational Learning," published in the Organization Science journal, introduced the concept of exploration and exploitation in organizational learning. It highlights knowledge production capability as a key driver of exploratory learning, leading to the enhancement of organizational intelligence. Crossan et al. (1999) investigated the dimensions of organizational learning in "Toward an Understanding of the Multifaceted Nature of Dynamic Capabilities," published in the Strategic Management Journal. The study emphasizes knowledge production as one of the fundamental building blocks of dynamic capabilities, which contribute to organizational intelligence and adaptability. Davenport and Prusak's book (1998), "Working Knowledge: How Organizations Manage What They Know," provides insights into the knowledge management landscape. While not exclusively focused on organizational intelligence, it underscores the role of effective knowledge production and utilization in enhancing organizational performance. Grant's research (1996), "Toward a Knowledge-Based Theory of the Firm," published in the Strategic Management Journal, discusses knowledge-based theory and competitive advantage. The study highlights the role of knowledge production in enabling organizations to build a knowledge base that supports decision-making, ultimately contributing to organizational intelligence.

Nonaka and Takeuchi's seminal work (1995), "The Knowledge-Creating Company," published in the Harvard Business Review, introduced the SECI model (Socialization, Externalization, Combination, Internalization) of knowledge conversion. This model highlights the role of knowledge conversion in creating new knowledge, leading to enhanced organizational intelligence. Tseng's study (2010), "Using an integrated model to explain how intellectual

capital affects business performance," published in the Journal of Intellectual Capital, explores the relationship between intellectual capital and business performance. The study suggests that effective knowledge conversion contributes to the enhancement of organizational intelligence and overall performance.

Wang and Noe's study (2010), "Knowledge sharing: A review and directions for future research," published in Human Resource Management Review, highlights the importance of knowledge application in knowledge sharing processes. While not exclusively focused on organizational intelligence, the study underscores the role of effective application of knowledge in enhancing overall organizational performance. Edmondson and McManus (2007) explored organizational learning and decision-making in "Methodological fit in management field research." Published in the Academy of Management Review, the study emphasizes the role of knowledge application in fostering intelligent decision-making processes within organizations.

Thus, the literature collectively underscores the vital role of knowledge management capability in shaping organizational intelligence. Organizations proficient in knowledge management effectively are better positioned to enhance decision-making, foster innovation, and improve overall performance. We obtained the result that knowledge management capability (KMC) has a significant positive effect on organizational intelligence (OI). Thus, we posit the following hypothesis.

H4. There is a significant positive correlation between the knowledge production capability and organizational intelligence.

H5. There is a significant positive correlation between the knowledge conversion capability and organizational intelligence. The knowledge conversion capability has a direct and significant effect on innovation performance.

H6. There is a significant positive correlation between the knowledge application capability and organizational intelligence. The knowledge application capability has a direct and significant effect on innovation performance.

Relationship between Organizational Intelligence and Innovation Performance

Kanter's seminal work (1983), "The Change Masters: Innovations for Productivity in the American Corporation," highlights the importance of organizational intelligence in fostering a culture of innovation. The book emphasizes how organizations with strong intelligence are more adaptable and open to change, leading to improved innovation outcomes. Bock's research (1999), "The Influence of Managerial Cognitive Styles on Corporate Social Performance," published in the Academy of Management Journal, examines cognitive styles of managers and their impact on various organizational outcomes, including innovation performance. While not exclusively focused on organizational intelligence, the study suggests that cognitive styles play a role in shaping organizational responses to challenges, which in turn influences innovation.

Zhang et al. (2021) investigated the role of organizational intelligence in innovation capability in "The impact of organizational intelligence on innovation capability: Evidence from Chinese high-tech firms." Published in the Journal of Business Research, the study explores how organizational intelligence contributes to the development of innovation capabilities and improved innovation performance. Drazin and Schoonhoven's work (1996), "Community, population, and organization effects on innovation: A multilevel perspective," published in the Academy of Management Review, discusses innovation from a multilevel perspective. While not exclusively focused on organizational intelligence, the study emphasizes the role of organizational factors in shaping innovation performance.

Hoegl and Parboteeah's study (2006), "Creativity in innovative projects: How teamwork matters," published in the Journal of Engineering and Technology Management, examines the role of teamwork and collaboration in innovative projects. While not solely focused on

organizational intelligence, the study suggests that effective collaboration contributes to innovation performance, which can be influenced by organizational intelligence.

Thus, the literature collectively underscores the significant role of organizational intelligence in shaping innovation performance. Organizations adept in processing information, fostering adaptive cultures, and promoting collaboration are better positioned to enhance innovation outcomes. This literature review emphasizes the strategic importance of nurturing organizational intelligence as a means to bolster innovation performance. Therefore, it is fair to conclude that organizational intelligence (OI) and innovation performance (IP) are closely related. Thus, we posit hypothesis as followings:

H7. There is a significant positive correlation between organizational intelligence (OI) and innovation performance (IP).

H8.Organizational intelligence plays a mediating role in the impact of KMC on innovation performance.

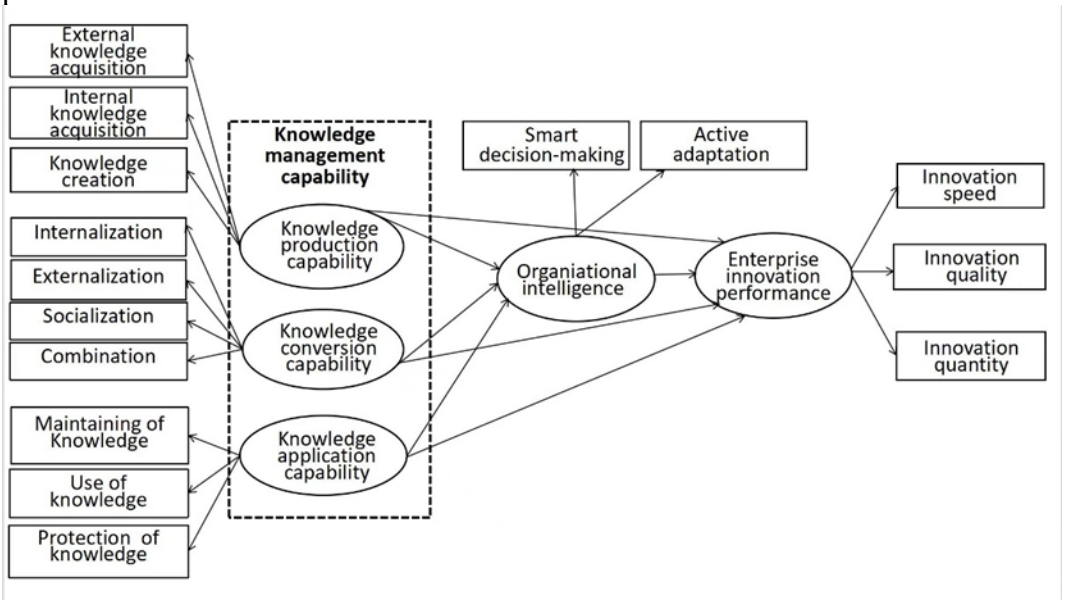

Figure 1 Research Conceptual Framework of Innovation Performance

RESEARCH METHODOLOGY

A sequential explanatory design was adopted for this study. The primary purpose of incorporating a mixed-methods approach in this study is to enhance the comprehensiveness and depth of the investigation into the impact of Knowledge Management Capability (KMC) on the Innovation Performance of Small and Medium-sized Enterprises (SMEs) in Hunan Province, China, while specifically focusing on the mediating role of organizational intelligence. This mixed-methods design is selected to capitalize on the complementary strengths of both quantitative and qualitative research methods, facilitating a more comprehensive understanding of the research questions (Creswell & Creswell, 2017). The quantitative phase serves to provide a structured and statistically robust examination of the relationships between KMC, innovation performance, and the mediating variable of organizational intelligence. It is designed to identify statistical patterns, associations, and correlations within a substantial sample of SMEs in Hunan Province. Subsequently, the qualitative phase, following the quantitative phase, is aimed at uncovering nuanced insights, contextual factors, and underlying mechanisms that influence how KMC affects innovation performance and how organizational intelligence mediates this relationship. Qualitative data will serve to explain and enrich the quantitative findings, thereby providing a comprehensive and holistic understanding of the phenomena under scrutiny (Teddlie & Tashakkori, 2009).

The population in this study consisted of Small and Medium-sized Enterprises (SMEs) from various industries and sectors operating within Hunan Province, China. SMEs from various industries and sectors will be considered to ensure diversity and representativeness. Due to the studied sample size calculation by Cochran (1977), 300 SMEs in Hunan were selected at a confidence level of 95%. Quantitative research methods will be employed to gather structured data on the variables under investigation. A structured survey instrument will be administered to a representative sample of Small and Medium-sized Enterprises (SMEs) in Hunan Province, China. This survey will measure Knowledge Management Capability (KMC), Innovation Performance, and organizational intelligence, among other relevant constructs. Qualitative data will be collected through semi-structured interviews with key stakeholders within a subset of the surveyed SMEs. These interviews will explore participants' perceptions, experiences, and perspectives related to KMC, Innovation Performance, and organizational intelligence.

Regarding data analysis, descriptive statistics will be employed to summarize and present the collected data. Measures such as means, standard deviations, frequencies, and percentages will be calculated to provide an initial overview of the data (Creswell & Creswell, 2017). To examine the relationships between variables, correlation analysis, particularly Pearson's correlation coefficient, will be used. This analysis will help determine the strength and direction of associations between KMC, Innovation Performance, and organizational intelligence (Pallant, 2016). To investigate the mediating role of organizational intelligence, mediation analysis using techniques such as the Baron and Kenny method or bootstrapping will be applied (Hayes, 2018). This analysis will help understand how and to what extent organizational intelligence mediates the relationship between KMC and Innovation Performance.

Data analysis will be performed using statistical software such as SPSS or R. These tools provide the necessary functionality to conduct the described statistical analyses efficiently (Field, 2018; R Core Team, 2021).

RESEARCH RESULTS

In our study, we employed a Structural Equation Model (SEM) to assess the overall measurement model using SPSS and PLS. The results of this analysis indicate a high level of reliability and validity for the utilized scales. In terms of reliability, our measurements, including Cronbach's alpha, Eigen value, and Dillon-Goldstein's Rho, all exceeded the recommended threshold of 0.7, as suggested by Hair, Anderson, Tatham, and Black (2001). To evaluate the measurement model's validity, we conducted assessments for both convergent validity and discriminant validity. Convergent validity, which assesses the extent to which factors designed to measure a single construct align with one another, was evaluated following established research practices. Our findings demonstrate that our model satisfies the criteria for convergent validity. Discriminant validity, which measures the extent to which factors intended to measure specific constructs do not predict unrelated criteria (Kline, 2010), was assessed using Fornell and Larcker's method. According to this approach, the Average Variance Extracted (AVE) for each construct should surpass the squared correlation between that construct and any of the other constructs. Table 1 demonstrates that the measurement model exhibits adequate discriminant validity.

Table 1 The results of reliability and validity basis on the scale measure the constructs in the conceptual mode

Critical ratio	Standard Error	perf	k.app	k.con	k.pro	variables constructs
12.193	0.045	0.452	0.529	0.523	0.632	k.pro1 production of
15.076	0.043	0.478	0.368	0.452	0.626	k.pro2 knowledge
14.325	0.041	0.506	0.478	0.595	0.679	k.pro3
11.253	0.052	0.423	0.427	0.422	0.645	k.pro4
16.285	0.048	0.526	0.515	0.537	0.768	k.pro5
18.683	0.035	0.566	0.446	0.519	0.754	k.pro6
16.054	0.035	0.523	0.516	0.530	0.752	k.pro7
19.813	0.028	0.532	0.553	0.532	0.825	k.pro8
17.931	0.039	0.545	0.533	0.589	0.768	k.pro9
16.753	0.041	0.478	0.494	0.577	0.705	k.pro10
9.836	0.062	0.428	0.516	0.626	0.562	k.con1 conversion of
8.525	0.057	0.382	0.370	0.576	0.431	k.con2 knowledge
9.235	0.063	0.325	0.498	0.614	0.357	k.con3
10.712	0.051	0.376	0.376	0.528	0.376	k.con4
19.782	0.053	0.473	0.469	0.652	0.468	k.con5
19.217	0.051	0.399	0.459	0.560	0.496	k.con6
15.853	0.042	0.533	0.561	0.732	0.633	k.con7
16.235	0.045	0.448	0.554	0.683	0.459	k.con8
15.147	0.052	0.258	0.486	0.597	0.346	k.con9
18.059	0.046	0.399	0.541	0.679	0.480	k.con10
13.645	0.035	0.508	0.614	0.742	0.576	k.con11
12.285	0.042	0.463	0.501	0.666	0.546	k.con12
22.906	0.036	0.489	0.619	0.760	0.534	k.con13
11.716	0.042	0.444	0.514	0.610	0.467	k.con14
11.785	0.066	0.307	0.709	0.543	0.397	k.App1 application
12.058	0.051	0.303	0.691	0.502	0.350	k.App2 of
11.179	0.056	0.433	0.628	0.509	0.490	k.App3 knowledge
17.358	0.044	0.375	0.776	0.639	0.451	k.App4
21.646	0.033	0.536	0.828	0.648	0.511	k.App5
12.712	0.051	0.464	0.659	0.516	0.473	k.App6
14.756	0.043	0.502	0.683	0.612	0.625	k.App7
18.165	0.055	0.455	0.679	0.485	0.581	k.App8
11.725	0.037	0.728	0.406	0.475	0.523	perf1 performance
13.586	0.042	0.665	0.334	0.394	0.407	perf2
16.763	0.045	0.804	0.445	0.476	0.557	perf3
12.658	0.048	0.744	0.400	0.456	0.512	perf4
11.069	0.036	0.692	0.461	0.526	0.535	perf5
14.255	0.046	0.703	0.436	0.495	0.485	perf6
15.248	0.039	0.766	0.419	0.484	0.538	perf7
15.563	0.043	0.713	0.502	0.532	0.574	perf8
12.209	0.039	0.639	0.339	0.348	0.367	perf9
13.127	0.045	0.652	0.486	0.428	0.437	perf10
The results (AVE) are > 0.50, except 0.509 0.506 0.460 0.543 Convergent validity the production which is 0.46						
The results (AVE) are more than the 0.715 0.706 0.748 0.742 Discriminant validity correlation coefficients between constructs						
Results are > 0.70 0.896 0.836 0.793 0.875 Cronbach's alpha						
Results are > 0.70 0.926 0.868 0.931 0.908 Dillon-Goldstein's Rho						

Our structural model provides robust support for the presence of Knowledge Management Capability Dimensions, specifically: knowledge production capability, knowledge conversion capability, and knowledge application capability. Furthermore, our structural model affirms the direct impacts of these knowledge management capabilities on innovation performance. Importantly, the observed effects of knowledge management capability on innovation

performance are both direct and statistically significant. The concept that corporate performance encompasses multiple dimensions, encompassing both financial and non-financial metrics, aligns with previous research. Thus, our scale, which is both valid and reliable for measuring innovation performance, holds the potential to make valuable contributions to the field of academic research on corporate innovation performance. In our structural model, we observe direct effects of knowledge production, conversion, and application elements of knowledge management—on the dimensions of innovation performance. The impact of knowledge production and conversion on the quality of innovation is not only direct but also significant. However, the effect of knowledge application on the quality of innovation is direct but lacks statistical significance. Moreover, the production, conversion, and application of knowledge, along with the dimensions of innovation performance, all exhibit direct and significant effects on overall performance. Statistical analysis has been performed to derive these results, and it is noteworthy that the effects of seven paths exceed the threshold of 1.69, while only one path falls below this threshold. As a result, we can confirm the support and verification of seven hypotheses.

DISCUSSION & CONCLUSION

The three dimensions of knowledge management capability have a positive impact on the innovation performance of small and medium-sized enterprises in Hunan Province. The empirical test results indicate that knowledge production capability, knowledge transfer capability, and knowledge application capability all have a significant positive impact on the innovation performance of small and medium-sized enterprises (standardized path coefficients are 0.232 and 0.243, respectively, with P-values of 0.005 and 0.001). This empirical result is consistent with Li Mingxing et al. (2011), Zhu Hongbo (2015), Weisberg (2006), that is, knowledge transformation ability enhances the innovation potential of enterprises by increasing the depth and breadth of knowledge resources available to organizations (Noaka & Takeuchi, 1995), and promotes innovation activities of enterprises in the storage of knowledge systems (Li Mingxing et al., 2011); The ability to apply knowledge can integrate and configure knowledge resources based on changes in the internal and external environment, achieving effective application of knowledge, and thus accelerating the development of new products and technological innovation (Sarin & McDermott, 2003) is a key factor determining the speed and effectiveness of enterprise innovation (Xu Haining, 2007).

The production, transformation, and application abilities of knowledge management have a significant positive impact on organizational intelligence. This empirical result is consistent with the research findings of Cruz and Dominguez (2007), Rothberg and rickson (2004), and DeAngelis (2013). Knowledge production capacity enables enterprises to obtain knowledge and information from both internal and external sources; The ability to transform knowledge enriches the depth and breadth of an organization's knowledge base, serving as a knowledge resource and potential foundation that supports organizational intelligence; The ability to apply knowledge represents the ability of an organization to directly transform knowledge into outputs such as products/services or solve problems, and is the most direct factor contributing to organizational intelligence. From the empirical test results, it can also be seen that organizational wisdom has a significant positive effect on the innovation performance of small and medium-sized enterprises in Hunan Province (with a standardized path coefficient of 0.311 and a P-value of 0.001). This empirical result is basically consistent with the research results of Glynn (1996), He Li (2009).

This paper finds and explains the dimension of KM capability that improves innovation and performance of SMEs. Empirical evidence is provided about the consequences of the production of knowledge, the transfer of knowledge and the application of knowledge on innovation and performance. Thus, one of the main conclusions of this research is finding KM

capability as a significant mechanism to enhance innovation and performance. Managers or owners of SMEs can use these findings to negotiate with stakeholders about implementing KM projects. Now, enterprises can learn about the positive impact of KM capability and its dimension on innovation and performance. Specifically, companies know that with a clear KM program they can be more innovative, achieve better financial results, and improve processes. And, in turn, those benefits foster the link of innovation performance.

This research also has some limitations. First, the sample was obtained from the members of Iranian power syndicate. In this sense, findings may be extrapolated to other areas or countries. Therefore, we cannot provide an international perspective for the above issue. However, in future research, a sampling frame that combines firms from different countries could be used in order to provide a more international perspective to the subject. Also, it may be interesting to analyze companies in different periods of time to observe their advances in KM and the existence of a KM implementation lifecycle. Initially, different KM program are expected over time. Third, subjective measures for performance were included in the questionnaire. In future studies, we will consider objective measures for performance such as intermediate outcomes of KM program.

Due to the limited academic level and limited resources of the author, this study still has the following objective limitations: firstly, due to insufficient time and resource constraints, the sample enterprises collected in this study are mainly small and medium-sized enterprises in Hunan Province. The area where the samples are collected is relatively small, which is inevitably influenced by factors such as regional policies and economic levels. In addition, the questionnaire includes subjective performance measurement standards. In future research, we will optimize these aspects.

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