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Investigating the Impact of Knowledge Conversion on Innovation and Organizational Performance: A Multi-Layered Moderated Mediation

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ABSTRACT

This study investigates the impact of knowledge conversion on innovation and organizational performance through a multi-layered moderated mediation framework. Drawing on the SECI model (socialization, externalization, combination, and internalization), the research examines how different modes of knowledge conversion influence both incremental and radical innovation outcomes, which subsequently shape overall organizational performance. The study also explores how organizational culture and digital knowledge infrastructure moderate the relationships within the framework. Data were collected from 412 IT professionals working in knowledge-intensive and innovation-driven environments across multiple organizations. Using structural equation modelling (SEM), the study empirically validates the proposed framework and reveals that knowledge conversion significantly enhances innovation capability, and innovation acts as a strong mediator between knowledge conversion processes and performance outcomes. Furthermore, supportive organizational culture and robust digital infrastructure significantly strengthen the indirect effects, confirming a multi-layered moderated mediation effect. The findings highlight the strategic importance of investing in knowledge conversion mechanisms to foster innovation and drive sustainable organizational performance. This study contributes to the knowledge management and innovation literature by offering a deeper understanding of how knowledge processes interact with contextual factors to influence performance in IT-driven environments. It also provides practical implications for managers seeking to enhance innovation capability through effective knowledge management practices.

Keywords: Knowledge Conversion, SECI Model, Innovation Capability, Organizational Performance

INTRODUCTION

In the contemporary knowledge-intensive economy, organizations increasingly depend on their capacity to convert knowledge into innovative outputs and sustainable performance advantages. Knowledge conversion—defined as the transformation of tacit knowledge into explicit knowledge and vice versa—is fundamental to organizational learning and capability development. The SECI model developed by Nonaka and Takeuchi (1995) remains a widely accepted framework for explaining how organizations continuously create knowledge through socialization, externalization, combination, and internalization processes. Studies have shown that organizations that effectively manage these conversion processes tend to exhibit superior innovation capability and improved adaptability in dynamic environments (Smith, 2001; Choi & Lee, 2003). Information technology (IT) firms, in particular, operate within environments characterized by rapid technological advancements, short product life cycles, and high reliance on digital knowledge. As a result, the ability to convert dispersed knowledge into actionable innovation is crucial for maintaining competitiveness (Zack, 1999; Andreeva & Kianto, 2012). Innovation is widely recognized as a critical driver of organizational performance, improving efficiency, service

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quality, and long-term strategic positioning (Damanpour, 1991; Calantone, Cavusgil & Zhao, 2002). Both incremental improvements and radical transformations depend heavily on how knowledge is shared, formalized, integrated, and applied within the organization.

However, knowledge conversion processes do not occur in isolation. Internal contextual factors such as organizational culture strongly influence employee attitudes toward knowledge sharing and collaborative innovation. Cultures characterized by trust, openness, and learning orientation are more likely to facilitate effective knowledge flows and innovation outcomes (De Long & Fahey, 2000; Cameron & Quinn, 2011). Similarly, digital knowledge infrastructure—including IT platforms, databases, collaboration tools, and analytics systems—plays a vital role in enabling efficient storage, retrieval, and dissemination of knowledge, thereby accelerating innovation and performance (Gold, Malhotra & Segars, 2001; Alavi & Leidner, 2001).

Despite the growing recognition of these factors, the mechanisms through which knowledge conversion influences innovation and organizational performance remain insufficiently explored, particularly within IT-driven environments. Existing studies have primarily examined direct relationships, overlooking the complex interplay of mediating and moderating variables. There is limited empirical evidence explaining how innovation mediates the relationship between knowledge conversion and performance, or how contextual elements such as culture and digital infrastructure strengthen or weaken these relationships. Addressing this gap, the present study employs a multi-layered moderated mediation framework and uses data collected from **412 IT professionals** to understand how knowledge conversion translates into innovation capability and organizational performance under varying contextual conditions.

Rationale for The Present Study

The increasing prominence of knowledge as a strategic asset has created a pressing need for organizations—especially those operating in dynamic sectors such as information technology—to effectively convert and leverage knowledge for innovation and long-term performance. Although the SECI model provides a strong theoretical basis for understanding knowledge creation (Nonaka & Takeuchi, 1995), empirical research reveals that many organizations still struggle to translate knowledge conversion into meaningful innovative outcomes (Choi & Lee, 2003; Andreeva & Kianto, 2012). This disconnect highlights the need to further investigate the mechanisms through which knowledge conversion affects innovation capability.Existing literature has established that innovation significantly contributes to organizational success (Damanpour, 1991; Calantone, Cavusgil, & Zhao, 2002). However, the role of innovation as a **mediating variable** in the knowledge conversion–performance link has received limited attention. Many studies have examined knowledge management and innovation separately, without exploring the **indirect pathway** through which innovation capability may enhance organizational performance (Donate & de Pablo, 2015; Lawson & Samson, 2001). This lack of integrated analysis creates ambiguity regarding how knowledge conversion processes ultimately contribute to organizational outcomes.

Furthermore, despite evidence that contextual conditions shape knowledge and innovation dynamics, research remains fragmented regarding the moderating effects of organizational culture and digital knowledge infrastructure. Organizational culture plays a critical role in shaping employees' willingness to share knowledge and engage in collaborative innovation (De Long & Fahey, 2000; Cameron & Quinn, 2011). Likewise, digital infrastructure determines the efficiency of knowledge dissemination, integration, and application (Alavi & Leidner, 2001; Gold, Malhotra, & Segars, 2001). Yet, few studies investigate how these factors jointly strengthen or weaken the innovation process within a single multi-layered model.

The rapid evolution of IT-based environments adds further urgency to this gap. IT professionals operate in knowledge-intensive contexts where digital platforms, collaborative tools, and innovation cycles are central to organizational functioning (Zack, 1999). Despite this, empirical evidence specifically capturing the experiences of IT professionals remains scarce, limiting the generalizability of existing findings (Andreeva & Kianto, 2012). Given these gaps, a comprehensive **multi-layered moderated mediation framework** is needed to clarify how knowledge conversion shapes innovation capability and, consequently, organizational performance, while accounting for cultural and technological contexts. By surveying **412 IT professionals**, this study offers robust

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empirical evidence and provides a deeper understanding of the complex relationships among knowledge conversion, innovation, culture, digital infrastructure, and performance. Such a holistic approach advances theoretical understanding and offers practical insights for organizations seeking to enhance innovation-driven performance through effective knowledge management.

LITERATURE REVIEW

Knowledge Conversion and the SECI Model

Knowledge conversion is central to organizational knowledge creation, as articulated in the SECI (Socialization–Externalization–Combination–Internalization) model introduced by Nonaka and Takeuchi (1995). According to this model, knowledge evolves through iterative processes in which tacit and explicit knowledge continuously interact. Socialization enables the sharing of tacit knowledge through observation and shared experiences, while externalization converts tacit insights into explicit concepts. Combination integrates explicit knowledge across various sources, and internalization transforms explicit knowledge back into tacit form through practice and application.

Smith (2001) emphasized that organizations relying on both tacit and explicit knowledge experience improved decision-making and creativity. Similarly, Choi and Lee (2003) observed that effective knowledge conversion significantly enhances organizational responsiveness and adaptability. In IT-based environments, knowledge conversion becomes even more crucial due to rapidly changing technologies and the need for real-time problem-solving (Andreeva & Kianto, 2012). Therefore, the SECI model provides a robust theoretical foundation for examining how knowledge conversion drives innovation capability.

Knowledge Conversion and Innovation

A growing body of research demonstrates that knowledge conversion directly contributes to both incremental and radical innovation outcomes. Lawson and Samson (2001) highlighted that innovation capability is deeply rooted in an organization's capacity to manage and transform knowledge effectively. Nonaka, Toyama, and Konno (2000) further suggested that the SECI processes enable a continuous flow of ideas, which supports product and process innovation.

Empirical studies confirm this relationship:

- Calantone, Cavusgil, and Zhao (2002) found that organizations with strong learning and knowledge-sharing cultures achieve higher innovation performance.
- Darroch (2005) reported that effective knowledge management practices enhance innovation speed and quality.
- Donate and de Pablo (2015) identified knowledge-oriented leadership and knowledge conversion as critical antecedents to innovation capability.

In IT firms, where innovation cycles are short and competition is intense, knowledge conversion plays a pivotal role in enabling creative problem-solving and rapid development of new solutions (Zack, 1999).

Innovation and Organizational Performance

Innovation has long been recognized as a key driver of organizational performance. Damanpour (1991) demonstrated through meta-analysis that innovation improves a wide range of performance indicators, including efficiency, productivity, and financial outcomes. Similarly, Rosenbusch, Brinckmann, and Bausch (2011) found a positive link between innovation and firm performance, especially in knowledge-intensive industries.

Innovation creates competitive advantage by fostering new processes, products, and market opportunities (Tidd & Bessant, 2014). In IT organizations, innovation capability enhances adaptability, customer satisfaction, and

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strategic agility (Alegre & Chiva, 2008). Thus, innovation is not only a product of knowledge conversion but also a significant predictor of organizational success.

Innovation as a Mediator Between Knowledge Conversion and Performance

Several scholars have suggested that innovation acts as a bridge between knowledge management and organizational performance.

- Darroch and McNaughton (2002) argued that knowledge practices influence performance only when they generate innovative outcomes.
- Alegre, Sengupta, and Lapiedra (2013) showed that innovation capability mediates the relationship between knowledge management and performance in technology-driven firms.
- Li, Zhao, and Liu (2006) found that innovation capability explains how knowledge-sharing and learning lead to improved performance metrics.

These findings support the assumption that knowledge conversion enhances performance more effectively when it leads to enhanced innovation capability. This justifies the inclusion of innovation as a mediating variable in the present study.

Moderating Role of Organizational Culture

Organizational culture is widely recognized as a critical factor influencing knowledge processes and innovation behavior. De Long and Fahey (2000) suggested that culture shapes employees' perceptions of knowledge sharing, openness, and collaboration. Cameron and Quinn's (2011) competing values framework emphasizes that clan and adhocracy cultures are more supportive of innovation and knowledge exchange.

Empirical studies confirm culture's moderating effect:

- Janz and Prasarnphanich (2003) found that collaborative cultures improve knowledge-sharing behavior and team innovation.
- Suppiah and Sandhu (2011) demonstrated that knowledge-sharing barriers are significantly shaped by cultural misalignment.
- Lin (2007) concluded that trust-based cultures enhance the impact of knowledge conversion on innovative behavior.

Thus, organizational culture likely strengthens the influence of knowledge conversion on innovation capability.

Moderating Role of Digital Knowledge Infrastructure

Digital knowledge infrastructure—comprising IT systems, databases, collaboration tools, and analytics—plays an essential role in supporting knowledge flow and innovation. Alavi and Leidner (2001) emphasized that digital systems facilitate faster access to knowledge and enhance organizational learning. Gold, Malhotra, and Segars (2001) stated that robust IT infrastructure is a key component of knowledge management capability.

Recent studies further highlight its moderating role:

- Chen and Huang (2009) found that IT capability strengthens the knowledge management–innovation linkage.
- Tarafdar and Gordon (2007) demonstrated that digital platforms enhance communication and improve innovation outcomes.

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- Schulze and Hoegl (2008) identified digital tools as critical for ensuring efficient innovation processes in distributed teams.

Therefore, digital knowledge infrastructure is expected to enhance the relationship between innovation and organizational performance in IT-based environments.

Summary of Literature Gaps

The review highlights several gaps:

1. Lack of comprehensive models integrating knowledge conversion, innovation, culture, and digital infrastructure.
2. Limited empirical evidence on multi-layered moderated mediation frameworks.
3. Scarce studies focusing on IT professionals**,** despite their knowledge-intensive work environment.
4. Insufficient research combining both incremental and radical innovation as outcomes of knowledge conversion.
5. Underexplored contextual factors**,** especially organizational culture and digital knowledge systems, in moderating the innovation process.

The present study addresses these gaps by developing and testing a multi-layered moderated mediation model using data from 412 IT professionals**.**

Objectives of the Study

1. To examine the influence of knowledge conversion processes (socialization, externalization, combination, and internalization) **on innovation outcomes** (incremental and radical innovation) in IT organizations.
2. To analyze the mediating role of innovation capability in the relationship between knowledge conversion and organizational performance.
3. To investigate the effect of knowledge conversion on organizational performance in knowledge-intensive IT environments.
4. To assess the moderating role of organizational culture in strengthening or weakening the relationship between knowledge conversion and innovation.
5. To evaluate the moderating role of digital knowledge infrastructure in the link between innovation capability and organizational performance.
6. To propose and empirically validate a multi-layered moderated mediation framework using data from 412 IT professionals.

THEORETICAL FRAMEWORK

This study is grounded in the SECI Model**,** Innovation Capability Theory**,** and the Resource-Based View (RBV) to explain how knowledge conversion drives innovation and organizational performance in IT firms.

1. SECI Model of Knowledge Conversion (Nonaka & Takeuchi, 1995)

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The SECI model—Socialization, Externalization, Combination, and Internalization—explains how tacit and explicit knowledge are continuously converted. These processes enable knowledge creation, learning, and idea generation.

Relevance: Knowledge conversion acts as the key antecedent influencing innovation capability.

2. Innovation Capability as a Mediator

Innovation capability represents an organization's ability to transform knowledge into new products, services, or processes (Lawson & Samson, 2001).

Relevance: Innovation mediates the effect of knowledge conversion on organizational performance, translating knowledge into outcomes.

3. Resource-Based View (RBV)

RBV states that knowledge and innovation are strategic resources that create sustained competitive advantage (Barney, 1991).

Relevance: Organizational performance is the final outcome of effective knowledge and innovation processes.

4. Moderating Role of Organizational Culture

Supportive cultures encourage collaboration, trust, and knowledge sharing (Schein, 2010).

Relevance: Culture strengthens the impact of knowledge conversion on innovation capability.

5. Moderating Role of Digital Knowledge Infrastructure

Digital platforms and IT systems enhance knowledge storage, sharing, and accessibility (Zack et al., 2009).

Relevance: Infrastructure strengthens the innovation–performance relationship.

Overall Framework

The study proposes a multi-layered moderated mediation model, in which:

- Knowledge conversion → Innovation capability → Organizational performance (mediation)
- Organizational culture moderates the Knowledge conversion → Innovation link
- Digital knowledge infrastructure moderates the Innovation → Performance link

Hypotheses Development

1. Knowledge Conversion and Innovation Capability

Knowledge conversion enables employees to transform tacit and explicit knowledge into new ideas, solutions, and improved processes. Prior studies show that effective utilization of socialization, externalization, combination, and internalization strengthens both incremental and radical innovation (Nonaka & Takeuchi, 1995; Darroch, 2005). In IT environments, where rapid knowledge flow is crucial, efficient knowledge conversion is expected to enhance innovation capability.

H1: *Knowledge conversion has a positive and significant effect on innovation capability.*

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2. Knowledge Conversion and Organizational Performance

Organizations that effectively convert knowledge can enhance learning, problem-solving, and adaptability, leading to improved operational and strategic performance (Alegre et al., 2013). When knowledge is systematically articulated and internalized, innovation and productivity tend to increase. **H2:** *Knowledge conversion has a positive and significant effect on organizational performance.*

3. Innovation Capability and Organizational Performance

Innovation capability is a major determinant of firm competitiveness, market growth, and long-term sustainability (Lawson & Samson, 2001; Teece, 2007). Firms with strong innovation capabilities are better positioned to deliver new products, enhance processes, and respond to market changes.

H3: *Innovation capability has a positive and significant effect on organizational performance.*

4. Mediation Effect of Innovation Capability

Knowledge conversion provides the raw input (ideas) that innovation capability transforms into tangible organizational outcomes. Literature consistently supports the mediating role of innovation in the knowledge–performance link (Darroch, 2005; Alegre & Chiva, 2008).

H4: *Innovation capability mediates the relationship between knowledge conversion and organizational performance.*

5. Moderating Role of Organizational Culture

A supportive culture—characterized by trust, collaboration, openness, and learning—enhances knowledge sharing and the utilization of converted knowledge (Schein, 2010). Such cultures amplify the effect of knowledge conversion on innovation through increased cooperation and creativity.

H5: *Organizational culture positively moderates the relationship between knowledge conversion and innovation capability, such that the relationship is stronger under a highly supportive culture.*

6. Moderating Role of Digital Knowledge Infrastructure

Digital knowledge infrastructure facilitates rapid knowledge sharing, integration, and application through tools such as intranets, collaborative platforms, and knowledge repositories (Zack et al., 2009). Strong digital systems help convert innovation capabilities into measurable performance outcomes.

H6: *Digital knowledge infrastructure positively moderates the relationship between innovation capability and organizational performance, such that the relationship is stronger when digital infrastructure is robust.*

7. Multi-Layered Moderated Mediation

Combining mediation and moderation leads to a multi-layered model. The indirect effect of knowledge conversion on performance through innovation is expected to vary depending on both organizational culture and digital infrastructure.

H7: *The indirect effect of knowledge conversion on organizational performance through innovation capability is contingent on (a) organizational culture and (b) digital knowledge infrastructure.*

Method

Sampling and Data Collection

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This study adopted a quantitative research design using a structured questionnaire to examine the relationships among knowledge conversion, innovation capability, organizational culture, digital knowledge infrastructure, and organizational performance. The target population consisted of IT professionals working in knowledge-intensive and innovation-driven environments across software companies, IT-enabled service firms, and technology consulting organizations.

A purposive sampling technique was employed to ensure that respondents possessed relevant experience in knowledge-intensive tasks, project collaboration, and innovation-related activities. To enhance representation, participants were drawn from multiple job roles, including software developers, system analysts, project managers, technical leads, and IT support staff. The selection criteria required respondents to have at least one year of work experience in their current organization to ensure familiarity with knowledge processes and organizational systems.

Data were collected through an online survey distributed via email, professional networks, and organizational communication platforms. Before administering the full-scale survey, a pilot test with 30 IT professionals was conducted to ensure clarity, reliability, and content validity of the instrument. Minor revisions were made based on feedback to improve phrasing and scale accuracy.

The final dataset comprised 412 valid responses, yielding a high level of statistical adequacy for structural equation modeling (SEM). Participation was voluntary, and respondents were assured of anonymity and confidentiality. Ethical approval for the study was obtained, and all data collection procedures adhered to standard academic research guidelines.

Data Analysis

Table: Confirmatory Factor Analysis (CFA) Results of Research Variables

Construct	Items	Factor Loading (FL)	Cronbach's Alpha (α)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Knowledge Conversion (KC)	KC1–KC4	0.74–0.89	0.89	0.91	0.72
Innovation Capability (IC)	IC1–IC4	0.76–0.88	0.88	0.92	0.70
Organizational Performance (OP)	OP1–OP4	0.78–0.90	0.90	0.93	0.74
Organizational Culture (OC)	OC1–OC4	0.72–0.87	0.87	0.90	0.68
Digital Knowledge Infrastructure (DKI)	DKI1–DKI4	0.75–0.89	0.91	0.93	0.71

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Table: SEM Structural Model Results

Hypothesis	Path	Path Coefficient (β)	t-value	p-value	Supported?
H1	Knowledge Conversion → Innovation Capability	0.47	8.12	< 0.001	Yes
H2	Knowledge Conversion → Organizational Performance	0.28	4.96	< 0.001	Yes
H3	Innovation Capability → Organizational Performance	0.41	7.54	< 0.001	Yes
H4 (Mediation)	Knowledge Conversion → Innovation Capability → Organizational Performance	0.19 (indirect effect)	5.21	< 0.001	Yes
H5 (Moderation – OC)	KC × Organizational Culture → Innovation Capability	0.22	3.98	< 0.001	Yes
H6 (Moderation – DKI)	IC × Digital Knowledge Infrastructure → Organizational Performance	0.25	4.41	< 0.001	Yes
H7 (Moderated Mediation)	KC → IC → OP (conditional on OC & DKI)	0.14 (conditional indirect effect)	3.67	< 0.001	Yes

Notes:

- All path coefficients are **standardized estimates**.
- $p < 0.05$ is considered statistically significant; all values are highly significant.
- t-value threshold for significance: **t > 1.96** ($p < 0.05$).

The SEM results demonstrate strong empirical support for the proposed relationships. Knowledge Conversion significantly enhances Innovation Capability ($\beta = 0.47$, $t = 8.12$, $p < 0.001$), confirming H1, and also positively influences Organizational Performance ($\beta = 0.28$, $t = 4.96$, $p < 0.001$), supporting H2. Innovation Capability shows a substantial positive effect on Organizational Performance ($\beta = 0.41$, $t = 7.54$, $p < 0.001$), validating H3. The mediation analysis (H4) indicates that Innovation Capability significantly mediates the link between Knowledge Conversion and Organizational Performance, with a strong indirect effect ($\beta = 0.19$, $t = 5.21$, $p < 0.001$). The moderation results further reveal that Organizational Culture strengthens the relationship between Knowledge Conversion and Innovation Capability ($\beta = 0.22$, $t = 3.98$, $p < 0.001$), supporting H5. Similarly, Digital Knowledge Infrastructure positively moderates the effect of Innovation Capability on Organizational Performance ($\beta = 0.25$, $t = 4.41$, $p < 0.001$), confirming H6. Finally, the multi-layered moderated mediation (H7) is validated, with the conditional indirect effect ($\beta = 0.14$, $t = 3.67$, $p < 0.001$), indicating that both Organizational Culture and Digital Knowledge Infrastructure jointly strengthen the mediating effect of Innovation Capability on the Knowledge Conversion–Performance link.

Hypotheses Testing Results and Interpretation

The structural model results obtained through Structural Equation Modelling (SEM) provide strong empirical support for the proposed hypotheses. **H1**, which posited a positive and significant relationship between

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knowledge conversion and innovation capability, is supported, indicating that effective transformation of tacit and explicit knowledge significantly enhances an organization's ability to generate both incremental and radical innovations. This finding underscores the critical role of SECI-based knowledge processes in fostering innovation capability within IT-driven environments.

H2 is also supported, demonstrating that knowledge conversion has a direct and positive effect on organizational performance. This result suggests that organizations that systematically capture, share, and apply knowledge are better positioned to achieve superior performance outcomes. Consistent with prior knowledge management literature, the finding highlights knowledge conversion as a strategic resource that directly contributes to organizational effectiveness.

Support is further found for **H3**, as innovation capability significantly and positively influences organizational performance. This confirms that organizations capable of continuously innovating are more likely to enhance productivity, adaptability, and competitive advantage. Innovation thus emerges as a key performance-driving mechanism in knowledge-intensive contexts.

With regard to mediation, **H4** is supported, revealing that innovation capability significantly mediates the relationship between knowledge conversion and organizational performance. The results indicate that while knowledge conversion directly influences performance, a substantial portion of its impact is transmitted through enhanced innovation capability. This partial mediation emphasizes innovation as a critical pathway through which knowledge resources are converted into tangible performance gains.

The moderation analysis provides evidence in support of **H5**, showing that organizational culture positively moderates the relationship between knowledge conversion and innovation capability. Specifically, the positive effect of knowledge conversion on innovation capability is stronger in organizations characterized by a supportive, collaborative, and learning-oriented culture. This finding highlights the importance of cultural context in enabling effective knowledge utilization and innovation outcomes.

Similarly, **H6** is supported, indicating that digital knowledge infrastructure positively moderates the relationship between innovation capability and organizational performance. The results suggest that robust digital systems enhance the ability of organizations to translate innovation outcomes into superior performance, particularly by facilitating knowledge integration, dissemination, and real-time decision-making.

Finally, the results confirm **H7**, demonstrating a significant multi-layered moderated mediation effect. The indirect effect of knowledge conversion on organizational performance through innovation capability is contingent upon both organizational culture and digital knowledge infrastructure. This indicates that the mediating role of innovation capability is amplified when supported by a strong cultural environment and advanced digital infrastructure. Collectively, these findings validate the proposed framework and highlight the intertwined roles of knowledge processes, innovation, and contextual factors in driving sustainable organizational performance.

DISCUSSION

This study advances knowledge management and innovation research by empirically validating a multi-layered moderated mediation framework that explicates how knowledge conversion influences organizational performance through innovation capability under varying contextual conditions. Grounded in the SECI model, the findings demonstrate that knowledge conversion is a critical antecedent of innovation capability, reinforcing the theoretical premise that systematic transformation of tacit and explicit knowledge enables organizations to generate both incremental and radical innovations.

The results further reveal that knowledge conversion exerts a direct positive effect on organizational performance, indicating that knowledge processes create value not only through innovation but also by enhancing coordination, learning efficiency, and strategic adaptability. The significant mediating role of innovation capability highlights its central function as a mechanism through which knowledge resources are

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translated into performance outcomes, thereby extending prior research that often treats innovation as an isolated outcome rather than a transmission pathway.

Importantly, this study underscores the contingent nature of the knowledge–innovation–performance relationship. A supportive organizational culture amplifies the impact of knowledge conversion on innovation capability, emphasizing the role of shared values, trust, and learning orientation in enabling effective knowledge utilization. Similarly, digital knowledge infrastructure strengthens the relationship between innovation capability and organizational performance by facilitating knowledge integration, scalability, and execution. The confirmation of a multi-layered moderated mediation effect offers a nuanced explanation of how organizational and technological contexts jointly condition the effectiveness of knowledge-driven innovation.

Limitations

Notwithstanding its contributions, this study has several limitations. The cross-sectional design constrains causal inference and does not capture the dynamic evolution of knowledge conversion and innovation processes. The focus on IT professionals in knowledge-intensive organizations may limit the generalizability of the findings to other sectors with different knowledge structures. Additionally, the reliance on self-reported perceptual measures introduces potential common method variance, despite the application of recommended procedural and statistical remedies. Finally, the model incorporates selected contextual moderators, leaving room for additional organizational and environmental contingencies.

Future Research Directions

Future research should employ longitudinal or panel designs to examine how knowledge conversion and innovation capability evolve over time and influence sustained performance. Extending the framework to diverse industries and cross-national settings would enhance its external validity and contextual relevance. Scholars may also explore additional mediating and moderating mechanisms, such as leadership styles, absorptive capacity, organizational learning, and environmental turbulence, to further refine the explanatory power of the model. Integrating qualitative or mixed-method approaches could also provide deeper insights into the micro-level processes underlying knowledge conversion and innovation.

Practical Implications

The findings offer clear implications for managerial practice. Organizations should move beyond knowledge accumulation toward the systematic conversion and application of knowledge through structured SECI-based mechanisms. Cultivating a supportive organizational culture that promotes collaboration, experimentation, and psychological safety is essential for maximizing the innovation potential of knowledge resources. Furthermore, investment in robust digital knowledge infrastructure, including collaborative platforms, analytics, and knowledge repositories, is critical for translating innovation capability into measurable performance outcomes. Together, these initiatives enable organizations to leverage knowledge strategically and sustain competitive advantage in digital and innovation-driven environments.

CONCLUSION

This study contributes to the literature by providing a comprehensive empirical examination of how knowledge conversion drives organizational performance through innovation capability within a contingent framework. By demonstrating the joint moderating roles of organizational culture and digital knowledge infrastructure, the research offers a more integrated understanding of knowledge-based value creation. The findings highlight that the performance benefits of knowledge conversion are neither automatic nor universal but depend on supportive cultural and technological contexts. As such, the study offers both theoretical advancement and actionable insights for organizations seeking to harness knowledge and innovation for long-term performance in IT-driven contexts.

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