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Mediation of Knowledge Management in the Relationship between Employee Turnover Intention and Service Quality in IT Outsourcing

TESIS PARA OBTENER EL GRADO DE DOCTOR EN ADMINISTRACIÓN ESTRATÉGICA DE EMPRESAS

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Dedication

To my mother and my brother, whose memory accompanies and guides me. To my father and my younger brother, whose example and presence have shaped my path. To my wife and daughters, for their patience, love, and strength throughout this journey. This achievement belongs as much to them as it does to me

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Abstract

Employee turnover represents a persistent challenge in Information Technology Outsourcing (ITO) firms, where service continuity depends heavily on accumulated organizational knowledge and specialized human capital. Although previous studies recognize the strategic role of knowledge in these environments, there remains limited empirical evidence explaining how knowledge management (KM) processes mitigate the negative impact of turnover intention on service quality (SQ). This doctoral research examines the mediating role of KM processes in the relationship between turnover intention and SQ within ITO operations. A quantitative approach was applied using survey data from 139 IT professionals working in medium and large ITO firms in Peru. Partial least squares structural equation modeling (PLS-SEM) was used to analyze the data. A second-order KM construct, composed of knowledge acquisition, conversion, application, and protection, was incorporated to assess differentiated mediating effects. The findings confirm that turnover intention negatively influences both SQ and KM, and that KM positively affects SQ. All four KM subprocesses significantly mediated the relationship between turnover intention and SQ, with knowledge protection emerging as the strongest mediator. The main doctoral contribution lies in providing empirical validation of KM as a resilience mechanism that protects service performance under turnover pressure. The study extends the knowledge-based view and dynamic capabilities perspective by demonstrating how KM processes operate as protective organizational capabilities in real outsourcing environments. Practically, the research highlights the need for institutionalized knowledge retention, standardization, and systematic application to reduce operational vulnerability and sustain SQ in high-turnover ITO contexts.

Keywords: knowledge management, service quality, turnover intention, user-centered service delivery, organizational computing, IT outsourcing.

Resumen Ejecutivo

La rotación de personal representa uno de los desafíos más críticos en las empresas de servicios de tecnologías de la información, especialmente en operaciones intensivas en conocimiento, donde la continuidad del servicio depende de la experiencia acumulada y de la estabilidad del equipo. Si bien la literatura reconoce la relevancia del conocimiento como recurso estratégico, existe limitada evidencia empírica que explique cómo los procesos formales de gestión del conocimiento pueden mitigar el impacto negativo de la rotación en la calidad del servicio dentro del contexto del *outsourcing* tecnológico. Esta tesis analiza el papel mediador de los procesos de gestión del conocimiento en la relación entre la intención de rotación y la calidad del servicio. Se empleó un enfoque cuantitativo utilizando encuestas aplicadas a 139 profesionales del sector TI en Perú y se estimó un modelo de ecuaciones estructurales con PLS-SEM. Los resultados confirman que la intención de rotación afecta negativamente la calidad del servicio; sin embargo, los procesos de gestión del conocimiento reducen parcialmente este efecto. Entre ellos, la protección del conocimiento emerge como el mediador más significativo, seguida por la aplicación, conversión y adquisición. La principal contribución doctoral radica en demostrar empíricamente que la gestión del conocimiento actúa como un mecanismo de resiliencia organizacional frente al *turnover*, proporcionando un modelo validado aplicable a operaciones reales del sector TI. Desde una perspectiva práctica, se recomienda institucionalizar procesos formales de captura, retención y transferencia del conocimiento para garantizar estabilidad operativa y continuidad del servicio.

Palabras clave: Gestión del conocimiento, calidad del servicio, intención de rotación, entrega de servicios centrados en el usuario, computación organizacional, *outsourcing* de TI.

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Introduction

This thesis is structured in two chapters. The first chapter presents the research paper accepted for publication, which is required to complete the degree of Doctor en Administración Estratégica de Empresas granted by the Pontificia Universidad Católica del Perú through its graduate school in business management, CENTRUM PUCP. The second chapter includes the main conclusions and recommendations of the thesis.

Therefore, Chapter 1 of this thesis includes the research paper entitled “Knowledge Management between Employee Turnover Intention and Service Quality in IT Outsourcing”, which was accepted for publication by the *Journal of Organizational and End User Computing* (JOEUC) on November 22, 2025 (see Appendix A, letter of acceptance or message accepting the paper). This journal is indexed in Scopus and classified in Quartile 2 (Q2).

This paper examined the relationship between employee turnover intention and service quality within the context of Information Technology Outsourcing (ITO) firms, where service performance depends heavily on accumulated organizational knowledge and specialized human capital. In these environments, the frequent movement of personnel creates operational instability, disrupts knowledge flows, and increases the risk of service degradation, client dissatisfaction, and higher operational costs. While prior literature acknowledges that knowledge is a strategic asset in service-based industries, empirical research on how knowledge management (KM) can buffer the operational consequences of turnover remains limited, particularly in the outsourcing sector in Latin American countries.

The relevance of this problem is supported in the literature. Knowledge has been widely recognized as a strategic organizational resource whose accumulation and retention directly condition performance outcomes in knowledge-intensive services (Barney, 1991;

Grant, 1996; Nonaka & Takeuchi, 1995). Turnover affects such environments not only by reducing headcount but also by weakening knowledge stocks, disrupting knowledge flows, and increasing coordination failures (Becker, 1964; Smite et al., 2020). In outsourcing contexts, the loss of tacit knowledge and specialized expertise undermines operational continuity and increases the risk of service degradation, client dissatisfaction, and escalation in operational costs (Ritala et al., 2022; Tseng, 2016; Zhang & Liang, 2023). Thus, knowledge management capabilities emerge as resilience mechanisms that protect service performance under workforce instability, particularly in ITO firms operating in emerging markets.

Grounded in the knowledge-based view, the resource-based view, and human capital theory, this study investigated whether KM processes - knowledge acquisition, conversion, application, and protection - mediate the relationship between turnover intention and service quality. Using a quantitative research design, data were collected from 139 IT professionals working in medium and large outsourcing providers in Peru, and analyzed using partial least squares structural equation modeling (PLS-SEM).

The findings revealed that turnover intention negatively affects both KM and service quality, while KM processes have a positive influence on service performance. Importantly, all KM subprocesses significantly mediated the relationship between turnover intention and service quality, with knowledge protection emerging as the strongest mediator.

The doctoral contribution of this research lies in demonstrating empirically that KM capabilities operate as resilience mechanisms that protect organizational performance under turnover pressure - a finding that advances theory in business management and provides actionable guidance for leaders operating in knowledge-intensive service environments.

Chapter 2 includes the conclusions and recommendations derived from this doctoral study. It also includes the theoretical and practical implications of this research and discusses

how the findings extend the existing body of knowledge in business management and administration. The analysis confirms that employee turnover intention negatively affects both knowledge management (KM) processes and service quality in Information Technology Outsourcing (ITO) firms. However, the results also demonstrate that KM processes function as a mediating mechanism capable of reducing the negative operational effects generated by turnover intention. Among the KM subprocesses evaluated, knowledge protection emerged as the strongest mediator, followed by knowledge application, conversion, and acquisition.

In addition to addressing the mediating role of knowledge management processes, this research also responds to a significant gap in the outsourcing literature: the lack of provider-side perspectives. Most prior studies have analyzed knowledge management or service dynamics predominantly from the client's standpoint, overlooking how outsourcing vendors internally manage knowledge to sustain performance in high-turnover environments. This gap is particularly relevant in emerging economies such as Peru, where the outsourcing industry has expanded rapidly and continues to face persistent challenges in talent retention, yet remains underrepresented in empirical management research. By examining the internal perspective of ITO providers, this thesis offers a contextualized and operationally grounded understanding of how knowledge-based capabilities function within the firms delivering the service, rather than solely from the demand-side viewpoint.

These findings validate the importance of institutionalizing knowledge retention, transfer mechanisms, and structured KM practices in knowledge-intensive service environments. At the same time, they provide empirical evidence supporting the knowledge-based view and dynamic capabilities theory by positioning KM as a resilience capability that helps organizations sustain service quality under workforce instability. This doctoral contribution goes beyond the scope of the published article by expanding the theoretical interpretation of the mediating mechanism, contextualizing the findings within the

outsourcing operational environment, and proposing a resilience-oriented managerial model based on KM practices.

Chapter I: The Research Article

Disclaimer

Centrum PUCP Business School and the Pontificia Universidad Católica del Perú are not responsible for any potential methodological, conceptual and statistical weaknesses in this article, weaknesses that were not detected by the journal editor or by the reviewers in the double-blind review process, to whom the journal editor sent the article for review. Also, if present, these weaknesses are not the responsibility of those who reviewed the quality of the thesis at Centrum PUCP, in view that the article is presented here exactly as it was published by the journal.

This chapter presents the research article entitled “Knowledge Management Between Employee Turnover Intention and Service Quality in IT Outsourcing”, which was accepted for publication in the *Journal of Organizational and End User Computing* (JOEUC) on November 22, 2025, an international peer-reviewed journal indexed in Scopus and classified in Quartile 2 (Q2). JOEUC has the ISSN 1546-2234 (print) and 1546-5012 (online). At the time of thesis submission, the article was formally accepted, and the proofing stage was completed. Final publication details, including volume, issue number, page range, and DOI, will be updated once officially assigned by the publisher.

The fully accepted version of the doctoral research article is presented below.

Knowledge Management, Turnover Intention and Service Quality in Information Technology Outsourcing

The global information technology outsourcing (ITO) industry is a knowledge-intensive sector where service quality (SQ) depends heavily on organizational knowledge and employee expertise (Smite et al., 2020). According to Gartner (2024), worldwide information technology (IT) spending was expected to total $5 trillion in 2024, an increase of 6.8 per cent from 2023, and spending on IT services was expected to grow 8.7 per cent in 2024, reaching

$1.5 trillion. Additionally, according to The Business Research Company (2024), the IT consulting market size has grown rapidly in recent years. It is expected to grow from $102.32 billion in 2024 to $113.25 billion in 2025, at a compound annual growth rate of 10.7%.

ITO firms have become strategic enablers of innovation and operational efficiency for client organizations (Rahman et al., 2021; F. Yang & M. Yang, 2023). However, high employee turnover threatens the continuity of critical knowledge and negatively impacts service delivery (Knudsen & Lien, 2023; Zhang & Liang, 2023). This study focuses specifically on turnover intention, defined as the employee's conscious and deliberate willingness to leave the organization. It is widely recognized as an antecedent of actual turnover and provides an early indicator of potential knowledge loss and service disruption (Mobley, 1977; Tett & Meyer, 1993). Unlike observed turnover, intention-based measures allow for proactive intervention and are commonly used in organizational behavior and human capital studies.

In traditional industries, product knowledge is embedded in machinery or systems. In ITO, firms rely on dynamic, interpersonal, and often tacit knowledge exchanges between clients and vendors. This cross-boundary knowledge exchange is particularly vulnerable to employee turnover (turnover intention to our study), which disrupts client relationships and increases operational risk. Therefore, managing knowledge as a strategic resource becomes essential not only for efficiency but also for resilience and trust continuity in ITO services (Zhou et al., 2024).

Despite extensive literature on knowledge management (KM) and SQ in various industries (Goncalves et al., 2024; Kejžar et al., 2023; Ritala et al., 2022), the mediating role of KM processes in the turnover intention–SQ relationship has not been sufficiently explored. Moreover, KM is often treated as a unified construct, overlooking how its sub-processes

(acquisition, conversion, application, and protection) may uniquely influence SQ (Wu et al., 2023).

While existing research has predominantly focused on how KM supports performance or innovation, this study instead frames KM as a buffering mechanism, a set of organizational capabilities that can absorb the shock of workforce volatility and maintain stable SQ. In particular, we draw on the concept of knowledge boundary buffering to explain how ITO firms use KM to protect service outcomes at the interface between vendor and client organizations.

Another important gap in the literature is the lack of provider-side perspectives in outsourcing research. Prior studies have emphasized the client's view in IT service relationships (Wei, 2021), but few have examined how ITO vendors themselves internally manage knowledge to mitigate the effects of employee turnover (Shim et al., 2019). This is particularly relevant in emerging economies such as Peru, where IT outsourcing has experienced rapid expansion and persistent challenges in talent retention, yet this context remain underexplored in empirical KM research.

Peru, as one of Latin America's emerging economies, has experienced significant growth in its ITO sector over the past decade. However, the country still faces structural challenges such as limited digital infrastructure outside major cities, high levels of informality in the labor market, and a shortage of specialized IT talent. These conditions contribute to elevated employee turnover rates, particularly among knowledge-intensive firms. Moreover, while KM is gaining recognition in the Peruvian business environment, it remains underdeveloped in many organizations. These factors create a unique context to explore how KM processes can mediate the impact of relational factors on turnover intention, especially in service firms exposed to human capital volatility.

This study addresses these gaps by:

- testing the direct and indirect effects of turnover intention on SQ through KM;
- disaggregating KM into four distinct processes to examine their unique mediating roles; and
- providing empirical evidence from Peruvian ITO firms, offering a Global South perspective underrepresented in KM and ITO research.

This research integrates the resource-based view (RBV), knowledge-based view (KBV), and human capital theories, conceptualizing KM as a valuable, rare, inimitable, and organizationally embedded (VRIO) resource that enables firms to maintain SQ despite turnover intention. Additionally, it draws on the service profit chain (Heskett et al., 1994), service-dominant logic (Vargo & Lusch, 2004), and the Service Quality (SERVQUAL) model (Parasuraman et al., 1991) to position KM as both a value co-creation infrastructure and a performance stabilizer in high-turnover environments. In doing so, this paper not only extends the theoretical understanding of KM's role in turbulent service settings, but also provides actionable guidance for ITO managers seeking to retain SQ under conditions of high employee intention turnover.

Therefore, this study aims to empirically examine whether KM processes mediate the relationship between employee turnover intention and SQ in ITO firms. By disaggregating KM into acquisition, conversion, application, and protection, this research identifies which mechanisms most effectively buffer service disruption in high-turnover environments. Drawing on data from Peruvian ITO firms, this study contributes to the literature by positioning KM as a resilience mechanism in service delivery and offering a provider-side, Global South perspective that addresses a critical empirical and theoretical gap.

Literature Review

Employee Turnover Intention

Turnover intention, defined as the subjective probability of leaving one's job (Kakar et al., 2022; Koslowsky et al., 2020), is a strong predictor of actual turnover according to the theory of planned behavior (Belias et al., 2022; Sun & Wang, 2017). This issue is especially critical in knowledge-intensive industries such as ITO, where high turnover leads to knowledge loss and declining SQ (Sharma & Tiwari, 2023; Smite et al., 2020; Younis et al., 2023). Factors such as job demands, low compensation, weak job embeddedness, and limited knowledge-sharing opportunities are well documented (Kmieciak, 2021; Pereira et al., 2024; Setthakorn et al., 2024). Yet, their impact on knowledge retention and SQ remains insufficiently explored. Few empirical studies have examined how turnover affects KM processes and mediates its consequences for SQ in ITO firms (Durst et al., 2023). In knowledge-intensive industries such as ITO, turnover has been linked to knowledge erosion and declining SQ (Smite et al., 2020). However, empirical studies validating these relationships remain scare, particularly concerning how KM processes mediate these effects.

SQ

SQ is generally understood as the gap between customer expectations and their perceptions after service delivery (Tseng, 2016). In the ITO context, SQ is linked to reliability, responsiveness, assurance, and empathy, reflecting intangible, process-oriented, and interpersonal activities (Palvia et al., 2010). The SERVQUAL model further categorizes SQ into five dimensions: tangibility, reliability, responsiveness, assurance, and empathy (Alkatheeri et al., 2021; Mamta & Kumar, 2023; Tseng, 2016). In ITO firms, these dimensions rely heavily on employees' expertise and knowledge-sharing mechanisms, making SQ highly dependent on knowledge intensity (Smite et al., 2020; Wei, 2021).

While SQ has been widely studied in industries such as healthcare, banking, and education (Nguyen et al., 2023; Ribeiro et al., 2024), limited empirical work has examined it

in ITO. Smite et al. (2020) showed that turnover undermines SQ but did not test KM's mediating role, leaving a gap this study addresses.

KM

Martelo et al. (2013) defined KM as "an organizational capacity that allows the integration of people, technologies, processes and strategy to create, use and share knowledge" (p. 2043). Rooted in the KBV of the firm, KM recognizes knowledge, both tacit and explicit, as a strategic resource for sustainable advantage (Nonaka, 1991). KM involves systematically acquiring, converting, applying, and protecting knowledge (Tseng, 2016). Each process is essential: acquisition (capturing and generating knowledge), conversion (organizing knowledge for accessibility), application (leveraging knowledge to improve outcomes), and protection (safeguarding against misuse or loss).

Extensive research confirms KM's positive effects on performance and SQ across industries (Goncalves et al., 2024; Khalid et al., 2024; Meher et al., 2023; Ritala et al., 2022; Tseng, 2016). Yet, in ITO contexts, the mediating role of KM processes in mitigating turnover's negative effects remains underexplored (Kordab et al., 2020; Shahzadi et al., 2021). Smite et al. (2020) linked turnover to declining SQ, but empirical validation of the mechanisms behind this relationship is scarce.

The literature affirms the individual relationships between KM and firm performance, KM and SQ, and turnover and knowledge loss (Edgar & Albright, 2022; Goncalves et al., 2024; Park et al., 2022; Tseng, 2016). Studies acknowledge KM's mediating function in other contexts, such as between organizational learning and firm performance or leadership and SQ (Pahi et al., 2022). However, no research has specifically examined how the four KM processes (acquisition, conversion, application, protection) mediate the relationship between turnover intention and SQ in ITO firms. Given the knowledge intensity of this sector, provider

expertise and knowledge retention are critical sources of competitive advantage (Martinez-Noya & García-Canal, 2021).

This study addresses these gaps by empirically testing KM's mediating role in ITO. By integrating RBV and KBV perspectives, it contributes to theoretical development and provides practical insights into managing turnover and sustaining SQ through robust KM practices, with broader relevance for knowledge-intensive industries.

Theoretical Framework and Hypotheses

The theoretical foundation of this study draws from the RBV, KBV, and human capital theory. RBV posits that firms gain competitive advantage by leveraging VRIO resources (Barney, 1991). Knowledge, when integrated into routines and systems, meets these criteria and enables firms to withstand shocks such as employee turnover (Grant, 1996).

Extending RBV, KBV identifies organizational knowledge as the most strategically significant resource (Nonaka & Takeuchi, 1995; Spender, 1996). KM processes (acquisition, conversion, application, and protection) are the mechanisms through which firms create and deploy knowledge. In volatile ITO environments, these processes act as buffers that mitigate disruptions caused by workforce instability.

Human capital theory further emphasizes employees as carriers of tacit skills and critical expertise (Becker, 1964). High turnover intention threatens this human capital, especially when knowledge is insufficiently institutionalized. Effective KM thus transforms individual knowledge into organizational assets, reducing vulnerability and sustaining performance.

Contextual factors also shape knowledge practices. Legal and institutional constraints—such as intellectual property, confidentiality, and data protection regulations—may limit how knowledge is shared, documented, or transferred in service firms (Funta &

Ondria, 2021; Perácek, 2023). Although not examined empirically here, these factors remain relevant moderators in knowledge-intensive environments.

Together, these perspectives position KM not only as a strategic asset but also as a resilience mechanism. In ITO firms, where services are knowledge-intensive and talent retention is challenging, KM processes mediate the link between turnover intention and SQ. They operate as dynamic capabilities, transforming intangible resources—such as client relationships and organizational climate—into tangible outcomes like reduced turnover and improved SQ.

Finally, concepts of knowledge hiding, knowledge loss, and organizational memory underscore the vulnerabilities firms face under turnover pressures. Beyond acquiring and sharing knowledge, organizations must preserve and institutionalize it to ensure continuity and resilience (Argote & Miron-Spektor, 2011; Connelly et al., 2012).

Turnover Intention and KM

High turnover intention weakens firms' knowledge ecosystems by reducing engagement in knowledge-sharing behaviors and interrupting the flow of tacit and explicit knowledge within the organization (Durst et al., 2023; Stovel & Bontis, 2022). In knowledge-intensive industries like ITO, where services depend on retained expertise and collective routines, employees with turnover intention often disengage from KM activities, eroding the firm's knowledge capacity (Galan, 2023; Park et al., 2022).

A study in the banking sector emphasizes the importance of managing knowledge to retain valuable employees and prevent knowledge attrition (Sumbal et al., 2023). These findings are particularly relevant to ITO firms, where specialized knowledge is crucial for a competitive advantage and ensuring high-quality service delivery. Despite extensive studies on KM in various industries, empirical research examining the direct impact of employee turnover intention on KM processes in ITO remains scarce (Durst et al., 2023).

These harmful effects depend on the firm's knowledge intensity (Meulenaere et al., 2021). High turnover intention disrupts KM processes by diminishing the organization's ability to acquire, convert, apply, and protect knowledge. Employees intending to leave are less likely to engage in knowledge-sharing activities, leading to reduced organizational knowledge capacity (Durst et al., 2023). The relationship the other way around has been explored too. Stovel and Bontis (2022) found that KM capacity mitigates the effects of employee turnover intention. Lakshman et al. (2022) found that knowledge sharing is motivating to employees, which results in lower turnover intention. Chen et al. (2022) showed that employee turnover intention is less likely among employees who established knowledge sharing ties. Fattah et al. (2022) concluded that organizations with high levels of knowledge sharing have lower levels of turnover intention. Finally, Ko and Choi (2023) showed that knowledge sharing may lead to the attenuating negative effect of employee turnover intention.

As result of previous research limitations related to the small generalizability of the findings (e.g., individual countries, business sectors), we focused on an intensive knowledge-based sector in Peru to examine the influence of turnover intention on KM in order to gain relevant knowledge in ITO firms. Thus, the first hypothesis of this study is proposed:

H1: Turnover intention negatively affects KM in ITO firms.

Turnover Intention and SQ

Employee turnover intention disrupts service continuity and weakens a firm's ability to deliver reliable and responsive services (Hausknecht et al., 2010; Smite et al., 2020). In ITO, SQ depends on expertise continuity, and even turnover intention—prior to actual exit—can degrade team cohesion, knowledge application, and customer responsiveness (Zaza et al., 2022). Relationships among some common factors of human resources and quality management in ITO are still unexplored (Heriyati et al., 2024). The relationship between turnover intention and SQ has been confirmed in other sectors and contexts, such as in

hospitality (Belias et al., 2022; Hausknecht et al., 2010), offshoring (Wickramasinghe, 2015), and banking (Holtman, 2024). However, studies about this relationship are still rare in ITO, and the effects are not clear (Belias et al., 2022). Finally, prior studies by Goncalves et al. (2024) corroborate the critical role of KM in mitigating service delivery gaps caused by workforce disruptions.

As a result of previous research limitations related to the lack of generalizability of the findings (e.g., individual countries, business sectors as health care, tourism, banking), and due to the fact that research about the impact of turnover intention over SQ in ITO context is rare, the current study focused on an intensive knowledge-based sector in Peru to examine the employee turnover intention effects over SQ, expanding the findings of previous studies. Thus, the second hypothesis is proposed:

H2: Turnover intention negatively affects SQ in ITO firms.

KM and SQ

Recent research underscores the critical role of KM in enhancing SQ within ITO firms. Effective KM practices facilitate the seamless transfer and application of knowledge, thereby improving service delivery and client satisfaction. For instance, a study examining knowledge processes in information and communication technologies service outsourcing highlights that the robust KM mechanism is pivotal for aligning service outcomes with client expectations (Herrera & Camacho, 2022). This alignment is essential in ITO firms where SQ is directly influenced by the firm's ability to manage and utilize knowledge resources effectively (Goncalves et al., 2024). Effective KM processes enable firms to align their services with customer needs, thereby improving reliability, responsiveness, and overall service delivery (Goncalves et al., 2024; Tseng, 2016). Moreover, recent evidence from end-user system studies shows that user perception of information and knowledge quality is crucial for adoption and value realization (Martín-Navarro et al., 2024).

The acquisition of new knowledge allows ITO firms to adapt to evolving client needs and technological change, directly improving responsiveness and innovation in service delivery (Herrera & Camacho, 2022; Tseng, 2016). Conversion ensures that tacit knowledge is codified, shared, and accessible, enabling consistent delivery across teams and projects. This process strengthens reliability and reduces service variability (Goncalves et al., 2024; Gold et al., 2001). Application translates stored knowledge into actions, enhancing operational efficiency and aligning services with client expectations (Ritala et al., 2022; Shim et al., 2019). Protecting critical knowledge—through repositories, retention mechanisms, and access control—prevents knowledge loss during staff turnover intention and sustains service consistency (Radevic et al., 2023; Richter et al., 2023).

There is a consensus regarding the links between KM and SQ in many sectors such as: the social security sector (Al Shraah et al., 2022), healthcare (Goncalves et al., 2024; Kejžar et al., 2023; Radevic et al., 2023), cross-industry and cross-country (Ritala et al., 2022), manufacturing (Tseng, 2016), and consulting (Kordab et al., 2020). Thus, the third hypothesis is proposed, this time exploring the effects of each KM processes on SQ:

H3a: Knowledge acquisition positively influences SQ in ITO firms.

H3b: Knowledge conversion positively influences SQ in ITO firms.

H3c: Knowledge application positively influences SQ in ITO firms.

H3d: Knowledge protection positively influences SQ in ITO firms.

KM as Mediator

Research indicates that KM capabilities significantly influence organizational performance by enabling firms to adapt to changes and maintain SQ despite workforce fluctuations (Tseng & Lee, 2014). KM has been widely researched as a mediator between different variables, but there is still a lack of evidence related to the mediating role of KM in

organizations operating in knowledge-intensive sectors like ITO (Aviv et al., 2021; Kordab et al., 2020).

There are several studies that have examined the mediating role of KM processes in various sectors and contexts such as in manufacturing (Kusa et al., 2023; Bagorogoza & Nakasule, 2022; Shehzad et al., 2023), in consulting firms (Kordab et al., 2020), in hospitality (Pahi et al., 2022), in industrial organizations (Lopez-Cabarcos et al., 2023), and in IT (Meher et al., 2023). While turnover intention can disrupt acquisition efforts, effective management systems can buffer this disruption by ensuring that new knowledge continues to be adopted or created by the firm (Kusa et al., 2024). Conversion mechanisms, such as documentation and training, help codify knowledge before employees exit, reducing service disruption (Lopez-Cabarcos et al., 2023). When firms institutionalize the use of knowledge, service delivery remains resilient even when individuals disengage or depart (Pahi et al., 2022). Robust protection mechanisms act as knowledge boundary buffers that isolate service processes from turnover intention shocks, preserving service integrity (Galan, 2023; Vargo & Lusch, 2004).

As a result of previous research limitations related to the small generalizability of the findings (e.g., individual countries, business sectors as manufacturing, hospitality, industrial), and the lack of studies in ITO context, the current study focused on an intensive knowledge-based IT sector in Peru to examine the mediating role of KM processes (acquisition, conversion, application, and protection) in the relationship between turnover intention and SQ, expanding the findings of previous studies in order to gain relevant knowledge in ITO firms.

Given the differentiated nature of KM processes, we propose four sub-hypotheses to reflect their unique mediating roles. H4a posits that knowledge acquisition mediates the relationship between relational factors and turnover intention by fostering learning and employee engagement, which reduce withdrawal behaviors (Kusa et al., 2024). H4b suggests

that knowledge conversion mediates this relationship by codifying tacit knowledge into accessible formats, thereby preserving SQ even when employees leave (Lopez-Cabarcos et al., 2023). H4c hypothesizes that institutionalized knowledge application supports consistency in service delivery, mitigating the negative effects of disengagement (Pahi et al., 2022). Finally, H4d proposes that knowledge protection acts as a buffer by securing critical knowledge assets, thus minimizing the operational risks associated with turnover (Galan, 2023). By testing these subprocesses independently, we aim to uncover which mechanisms are most influential in maintaining service performance under conditions of employee instability.

Therefore, the following hypotheses are proposed:

H4a: Knowledge acquisition mediates the relationship between turnover intention and SQ in ITO firms.

H4b: Knowledge conversion mediates the relationship between turnover intention and SQ in ITO firms.

H4c: Knowledge application mediates the relationship between turnover intention and SQ in ITO firms.

H4d: Knowledge protection mediates the relationship between turnover intention and SQ in ITO firms.

Figure 1 presents the proposed conceptual model.

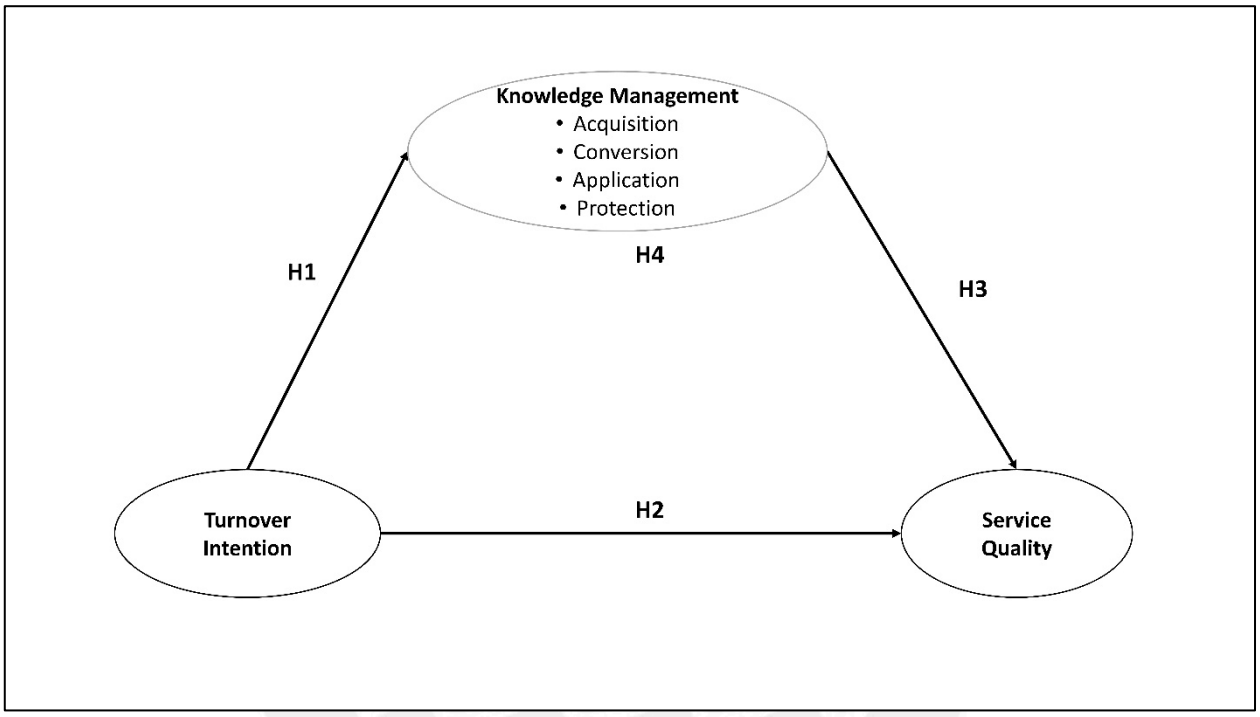
Research Methodology

Sampling and Data Collection

This study surveyed IT executives from medium and large Peruvian ITO firms formally registered with Superintendencia Nacional de Aduanas y de Administración Tributaria (SUNAT), concentrated in Lima and Callao. Following Newman et al. (2018), we used multiple respondents per firm (IT managers and specialists) given their roles in SQ and

KM. To mitigate common method bias, data were collected in two waves separated by two weeks (Podsakoff et al., 2012) using a multimode protocol (email, social media, Zoom, telephone). Participation was voluntary with informed consent; confidentiality and anonymity were assured (Nell & Ambos, 2013).

Figure 1. *Proposed Conceptual Research Model*



Note. H1-H4 = Hypotheses 1- 4; TI = Turnover intention; KM = Knowledge management; SQ = Service quality

Instruments were translated via forward–backward procedures (Cunningham et al., 2019) and reviewed by an expert panel for clarity, relevance, and content validity; minor wording adaptations contextualized items to Peru. A pilot test refined wording to improve comprehension. We obtained 139 complete responses from 190 questionnaires; incomplete surveys were discarded. The sample size exceeds recommended thresholds for Partial Least Squares – Structural Equation Modeling (PLS)-SEM, minimizing sampling error (Hair et al., 2019; Memon et al., 2020) and satisfies the 10-times rule relative to the most complex construct–10 indicators (Hair et al., 2021).

The study applied fundamental scientific reasoning methods. Analysis and synthesis were used to structure and connect theoretical concepts, while deduction guided hypothesis formulation and induction supported the interpretation of empirical findings. These logical procedures ensured coherence across the research process.

Data Analyses

We employed SmartPLS version 4 to estimate the measurement and structural models and to test hypotheses. Partial Least Square – Structural Equation Modelling (PLS-SEM) was chosen given the relatively small sample size and its suitability for prediction-oriented research (Hair et al., 2017; Sarstedt et al., 2017). SmartPLS is widely recognized as an appropriate tool for such analyses (Sarstedt & Cheah, 2019). Model evaluation followed standard steps: specification, measurement assessment, structural assessment, and hypothesis testing.

Descriptive statistics were computed, and data quality was verified through tests of heteroscedasticity, normality, linearity, bias, and outliers (Byrne, 2016). A deductive approach guided the study, applying established theoretical models to empirically validate relationships. Analytical and synthetic reasoning ensured coherence between hypotheses, theory, and findings.

Table 1 presents the demographic data of the sample, including age, gender, and years of experience.

Table 1. *Demographic Data of the Sample*

Experience (years)	**Number of people**	
Women	41	
3 to 5 years	2	1.43%
5 to 10 years	10	7.19%

Experience (years)	**Number of people**	
10 to 15 years	13	9.35%
Over 15 years	16	11.50%
Men	98	
3 to 5 years	3	2.15%
5 to 10 years	13	9.35%
10 to 15 years	26	18.70%
Over 15 years	56	40.28%
Total	139	

Age range	Men	Women
25 to 30 years old	4	8
30 to 35 years old	8	6
35 to 45 years old	39	16
Over 45 years old	47	11
	98	41

An exploratory factor analysis confirmed item convergences with their respective constructs, adopting 0.50 as the minimum threshold for factor loadings (Tseng, 2016). The second-order KM construct comprised four first-order dimensions: acquisition, conversion, application, and protection, all of which exceeded this threshold.

For turnover intention, item IR6 (turnover intention item 6) was removed due to a loading below 0.50 and because experts judged it to reflect emotional detachment rather than turnover intention. Similarly, service quality (SQ) items SQ3 and SQ5 were excluded from the SQ construct as their loadings were below 0.50 and they overlapped conceptually with

other items. Their omission enhanced both statistical robustness and construct clarity. These adjustments did not affect the theoretical power of these constructs. All constructs included in the conceptual model are reflective.

The measurement model was assessed for validity and reliability. Convergent validity confirmed that observed indicators adequately represented their latent constructs, while discriminant validity ensured that constructs were empirically distinct.

Next, the structural model was evaluated to examine effect sizes (f^2), predictive relevance (Q^2 and q^2), and explained variance (R^2) as well as the out-of-sample accuracy provided by Q^2predict. This stage also included hypothesis testing, covering both direct and indirect paths, thereby assessing the mediating role of KM processes between turnover intention and SQ.

Finally, Harman's single-factor test was conducted to assess common method bias. An unrotated principal component analysis showed that the first factor explained 27.58% of the variance, well below the 50% threshold (Podsakoff et al., 2012), indicating that common method bias was not a major concern.

Instrumentation

SQ was measured using Tseng's (2016) scale, which builds on the SERVQUAL instrument by Parasuraman et al. (1991). The construct included seven items and was assessed from the perspective of ITO personnel (managers and specialists) rather than clients. While this internal perspective is appropriate given their role in service delivery, it may introduce some subjectivity in evaluating service outcomes. Employee turnover intention was measured using the Turnover Intention Scale-6 (TIS-6) developed by Bothma and Roodt (2013). Grounded in Ajzen's theory of planned behavior, this six-item scale has been widely validated as a reliable predictor of employee turnover intention.

KM was measured using Tseng's (2016) scale, which integrates contributions from Gold et al. (2001) and Tanriverdi (2005). KM was conceptualized as a second-order construct operationalized through four first-order dimensions (Marchena & De la Vega, 2021): knowledge acquisition (two items), knowledge conversion (two items), knowledge application (three items), and knowledge protection (three items).

All constructs achieved Cronbach's alpha values above 0.70, indicating satisfactory internal consistency. Responses were collected using a five-point Likert scale ranging from one ("strongly disagree") to five ("strongly agree"). Further details on the measurement instruments are provided in the Appendix.

Results

Evaluation of the Measurement Model

Convergent validity was confirmed as all average variance extracted values exceeded 0.50 and item loadings were above the recommended threshold (Hair et al., 2019). Reliability was established through Cronbach's alpha and composite reliability, with all values surpassing the 0.70 and 0.80 cutoffs, respectively (Nunnally & Bernstein, 1994; Nunnally, 1978). These results confirm the reliability and validity of the constructs. Table 2 summarizes the outcomes.

Table 2. *Convergent Validity and Reliability*.

Construct		Items	Loading	Cronbach α	CR	AVE
TI		TI1	0.737	0.862	0.892	0.628
		TI2	0.787			
		TI3	0.619			
		TI4	0.904			
		TI5	0.881			
KM	Acquisition	KM1	0.631	0.700	0.784	0.524
		KM2	0.806			
	Conversion	KM3	0.867	0.731	0.843	0.729
		KM4	0.840			
	Application	KM5	0.871	0.701	0.829	0.619
		KM6	0.705			

Construct		Items	Loading	Cronbach α	CR	AVE
	Protection	KM7	0.776			
		KM8	0.737	0.788	0.866	0.557
		KM9	0.644			
		KM10	0.843			
SQ		SQ1	0.830	0.859	0.898	0.640
		SQ2	0.775			
		SQ4	0.911			
		SQ6	0.737			
		SQ7	0.733			

Note. TI = Turnover intention; KM = Knowledge management; CR = Composite reliability; AVE = Average Variance Extracted; α = Cronbach's Alpha.

Discriminant validity was assessed using the Fornell–Larcker criterion, which confirmed that the square root of each construct's average variance extracted exceeded its correlations with other constructs (Fornell & Larcker, 1981). The heterotrait-monotrait ratio (HTMT) was also examined, with all values below the 0.70 threshold, further supporting discriminant validity. Results are presented in Table 3 and Table 4.

Table 3. *Discriminant Validity Using Fornell-Larcker*

	Knowledge management (KM)	Service quality (SQ)	Turnover Intention
KM	0.894		
SQ	0.494	0.800	
Turnover intention	-0.275	-0.290	0.792

Note. KM = Knowledge management; SQ = Service quality.

Table 4. *Discriminant Validity Using HTMT*

	Knowledge management (KM)	Service quality (SQ)	Turnover Intention
KM			
SQ	0.635		
Turnover intention	-0.264	0.498	

Note. KM = Knowledge management; SQ = Service quality; HTMT = Heterotrait–Monotrait ratio.

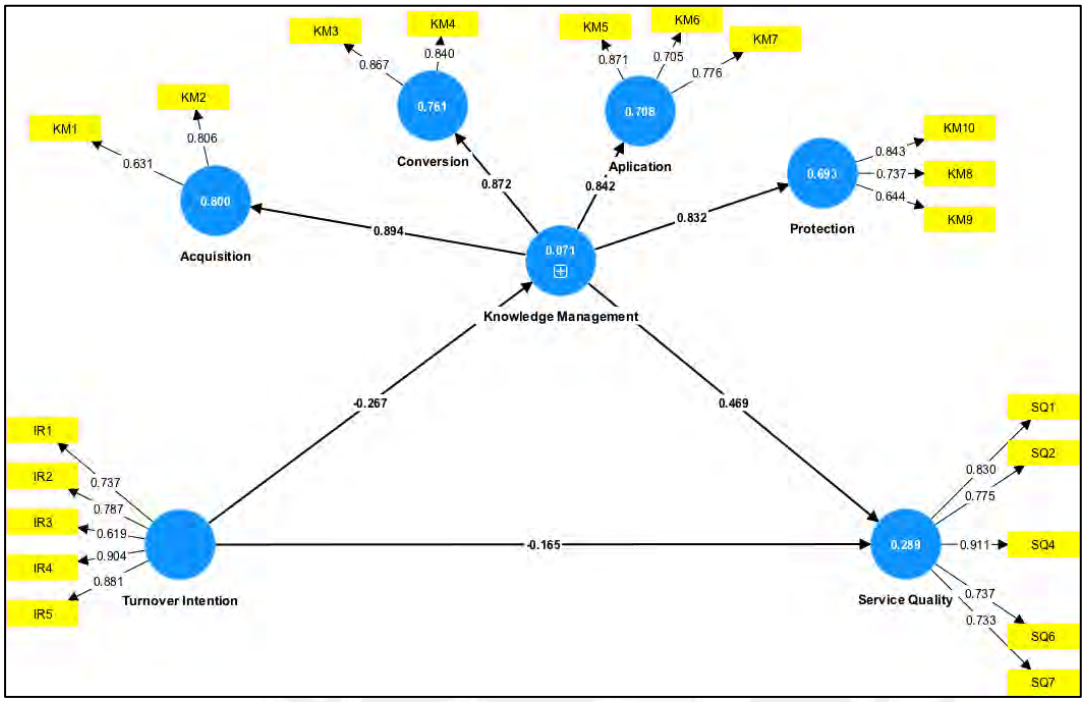
HTMT values ranged from 0.68 to 0.69, remaining well below the conservative 0.85 threshold (Henseler et al., 2014). This confirms that the constructs are empirically distinct and that discriminant validity is achieved. Figure 2 shows the measurement model for the first- and second-order constructs.

Evaluation of the Structural Model

Collinearity and Path Significance. The first step included the assessment of collinearity through the variance inflation factor. All variance inflation factor values were below the recommended threshold of three (Petter et al., 2007), confirming that multicollinearity is not a concern in the data, as seen in Table 5. Using the partial least square PLS approach, we then evaluated the strength and significance of the hypothesized relationships. As expected, turnover intention showed statistically significant effects on both KM and SQ, while KM also exhibited a significant effect on SQ. These findings are consistent with prior studies emphasizing the central role of turnover and KM processes in shaping service outcomes (Gonçalves et al., 2024; Park et al., 2022; Radevic et al., 2023; Ritala et al., 2022; Smite et al., 2020).

Coefficient of Determination ($R^{2)}$. The explanatory power of the model was assessed through the coefficient of determination. The results indicate that the structural model explains 28.9% of the variance in SQ ($R^2 = 0.289$) and 7.1% of the variance in KM ($R^2 = 0.071$). Both values exceed the recommended minimum threshold of 0.10 (Hair et al., 2011; Henseler et al., 2014), suggesting that the model possesses acceptable explanatory strength. This supports the theoretical argument that employees' knowledge plays a crucial role in the quality of IT outsourcing services (Park et al., 2022; Smite et al., 2020).

Figure 2. *Measurement Model for the First and Second-order Constructs*



Note. KM = Knowledge management; SQ = Service quality; IR = Turnover intention.

Predictive Relevance and Effect Sizes. Predictive relevance was evaluated using Stone–Geisser's cross-validated redundancy index (Q^2) via the PLSpredict tool. Since all Q^2 values for the endogenous constructs were greater than zero, the model demonstrates satisfactory predictive capability (Barroso et al., 2010; Hair et al., 2011), as seen in Table 7. Effect sizes (f^2) were also analyzed. The path from turnover intention to SQ yielded a value of 0.290, suggesting a medium effect size. The effect of turnover intention on KM was small ($f^2 = 0.031$), while the effect of KM on SQ was weak but notable ($f^2 = 0.077$). Together, these results confirm the hypothesized relationships and highlight the mediating role of KM in the model (Sarstedt et al., 2021). Table 5 shows the variable relationship of the tests. Table 6 shows the process mediation results. Table 8 shows the mediation effect sizes.

Table 5. *Variable Relationship of the Hypothesis's Tests*

	Original Sample (O)	Mean Sample (M)	Standard deviation	*p*-Values	*t*-Values	VIF
H1: TI -> KM	-0.267	-0.281	0.069	0.000	3.888	1.000
H2: TI -> SQ	-0.165	-0.176	0.084	0.040	1.701	1.099
H3: KM -> SQ	0.469	0.471	0.070	0.000	6.719	1.099

Note. TI = Turnover intention; KM = Knowledge management; SQ = Service quality; VIF = Variance Inflation Factor

Table 6. *Knowledge Management (KM) Process Mediation Results*

	Indirect Effect	*t-Values*	*p-Values*	95% CI Lower	95% CI upper
H4a: TI -> KM -> ACQ	-0.239	3.793	0.000	-0.344	-0.097
H4b: TI -> KM -> APP	-0.225	3.792	0.000	-0.316	-0.091
H4c: TI -> KM -> CONV	-0.233	3.739	0.000	-0.335	-0.091
H4d: TI -> KM -> PROTECTION	-0.222	3.635	0.000	-0.324	-0.087
H4: TI -> KM -> Service quality (SQ)	-0.126	3.142	0.002	-0.201	-0.047

Note. Indirect effects estimated using bootstrapping with 5,000 subsamples. Confidence intervals are bias corrected at the 95% level. CI = Confident interval; TI = Turnover intention; ACQ = Knowledge acquisition; APP = Knowledge application; CONV = Knowledge conversion; PROT = Knowledge protection.

Table 7. *Structural Model Predictive Power*

	Q^2 predict
Knowledge management (KM)	0.055
Knowledge application	0.040
Knowledge conversion	0.029
Knowledge protection	0.020
Service quality (SQ)	0.060

***Note*.** KM = Knowledge management; SQ = Service quality; Q^2 = Stone–Geisser's predictive relevance.

Table 8. *Knowledge Management (KM) Mediation Effect Sizes*

KM Process	Indirect Effect
Protection	0.364
Application	0.321
Conversion	0.288
Acquisition	0.142

***Note*.** KM = Knowledge management.

Hypotheses Testing

The hypotheses were tested using bootstrapping with 5,000 subsamples. The significance of each path coefficient can be seen in Figure 2. All path coefficients were found to be significant (*t*-values for all path coefficients are statistically significant at the $\alpha = 0.005$), providing support for H1, H2, and H3. H1 and H2 state that employee turnover intention negatively influences KM and SQ in ITO firms, respectively. H3a, H3b, H3c, and H3d state that knowledge acquisition, conversion, application, and protection positively influence the SQ in ITO firms, respectively. All *p*-values in all relationships are below 0.05, supporting all four hypotheses.

The mediating effect of KM in the relationship between turnover intention and SQ was confirmed through bootstrapping with 5,000 subsamples. Bootstrapped confidence intervals (5,000 resamples) confirmed the significance of the indirect effects, as zero was not contained in any of the 95% confidence intervals. As presented in Table 6, all specific indirect effects were statistically significant, with *p*-values below 0.001 and t-values exceeding the 3.6 threshold. The 95% bias-corrected confidence intervals for each path (H4a to H4d) did not include zero, providing robust support for the mediating role of each KM subprocess. Specifically, the indirect effects via acquisition ($\beta = -0.239$), application ($\beta = -0.225$), conversion ($\beta = -0.233$), and protection ($\beta = -0.222$) were all negative and of moderate magnitude. The total indirect effect through the higher order KM construct (H4) was also

significant (β = -0.126, t = 3.142, p = 0.002, CI 95% [-0.201, -0.047]). These findings support H4a, H4b, H4c, and H4d, confirming that each KM process significantly mediates the effect of turnover intention on SQ in ITO firms.

Discussion

This research examined the mediating role of KM processes in the relationship between employee turnover intention and SQ in ITO firms. A notable result is that knowledge protection emerged as the strongest mediator, highlighting that in high-turnover industries, securing existing knowledge assets is more critical than traditional knowledge-sharing initiatives.

By disaggregating KM into acquisition, conversion, application, and protection, this study shows that each subprocess contributes differently to service continuity. Rather than a monolithic construct, KM functions as a resilience mechanism that buffers operational disruptions caused by turnover intention, consistent with organizational memory and knowledge buffering views (Argote & Miron-Spektor, 2011). The combined strength of all four mediation paths indicates the need for balanced strategies capturing knowledge, ensuring its application, and safeguarding retention. These findings confirm H4a through H4d, supporting the mediating role of each KM process.

The findings also confirm that turnover intention negatively influences KM and SQ (H1 and H2), while KM positively enhances SQ (H3a–H3d). Each subprocess plays a distinct role in mitigating adverse effects, offering a more nuanced understanding of how KM supports service delivery. Results extend earlier studies that only suggested these links (Galan, 2023; Park et al., 2022; Smite et al., 2020) and align with evidence from knowledge-intensive firms (Meulenaere et al., 2021). They also reinforce the service profit chain (Heskett et al., 1994), positioning KM as a key link that sustains SQ despite workforce instability.

Additionally, the findings demonstrate that KM processes act as strategic enablers that reduce service risks associated with turnover intention. This complements the literature on workforce volatility and knowledge retention (Bagorogoza & Nakasule, 2022; Lopez-Cabarcos et al., 2023; Shehzad et al., 2023).

While the statistical significance of all mediation paths was confirmed, we also observed meaningful indirect effect sizes, as seen in Table 8, that reflect the relative influence of each KM process on SQ. Specifically, knowledge protection (0.364), application (0.321), and conversion (0.288) emerged as the most influential mediators, indicating that strengthening these processes can meaningfully buffer the negative effects of turnover intention on service performance. Although acquisition had a lower coefficient (0.142), it still contributed significantly to knowledge resilience in high-turnover settings. These effect sizes offer practical insights for prioritizing KM investments in ITO firms seeking to safeguard SQ.

The prominence of protection aligns with the KBV's emphasis on the inimitability of safeguarded knowledge (Barney, 1991; Grant, 1996) and with studies highlighting it as a resilience mechanism (Connelly et al., 2012; Durst & Zieba, 2017). Retaining tacit and explicit knowledge within organizational boundaries minimizes operational risks and prevents client-specific know-how leakage.

Finally, while results demonstrate KM's mediating role (H4), conclusions are bounded by the Peruvian ITO context. Cultural and institutional differences may affect KM strategies elsewhere, and the cross-sectional design limits causal inference. Future longitudinal and cross-country research is required to validate the model's robustness.

Theoretical Implications

The study extends RBV and KBV by showing that KM is not only an enabler of SQ but also a stabilizing mechanism in contexts of high turnover intention. Unlike prior work

treating KM as a single construct, this research disaggregates its four processes (acquisition, conversion, application, and protection) and demonstrates their differentiated effects on SQ from the provider's perspective in ITO firms. Results confirm that knowledge protection plays a dominant role in mitigating turnover-related knowledge loss, reinforcing KM as a VRIO resource essential for sustained competitive advantage in knowledge-intensive sectors. In addition, the study advances the service profit chain (Heskett et al., 1994) by positioning KM as a pivotal element sustaining SQ despite workforce instability and extends SERVQUAL (Parasuraman et al., 1991) by showing how KM enhances core SQ dimensions in IT-enabled services: reliability, assurance, and responsiveness.

Finally, this research reframes SQ analysis from a predominantly customer-centric perspective to a provider-centric one, emphasizing the strategic role of internal KM practices in sustaining service excellence.

Practical Implications

The study offers practical strategies for ITO managers facing high turnover. Knowledge protection should be prioritized through secure repositories, version-controlled documentation, and access controls; in low-budget contexts, simple tools such as onboarding manuals, recorded training, and checklists are effective.

Knowledge application and conversion can be strengthened via job rotation, mentoring, and cross-functional collaboration, while low-cost practices like workshops or "lessons learned" debriefs provide viable alternatives.

Overall, KM must be addressed as a human-centered strategy, requiring leadership support, incentives for knowledge sharing, and alignment with retention policies. For firms in emerging economies, the model can guide the identification and improvement of weaker KM processes.

Limitations

Despite its contributions, this study has several limitations that should be acknowledged. First, the focus on Peruvian ITO firms constrains the generalizability of the findings. Future research should examine KM's mediating role across other service sectors (e.g., healthcare, financial services, education) and cultural settings to test the model's broader applicability.

Second, as this study employed a cross-sectional design, causal inferences cannot be firmly established. Future longitudinal research could further validate the temporal dynamics among KM processes, turnover intention, and SQ. Moreover, cross-sectional design prevents the assessment of temporal changes in KM practices or turnover trends over time.

Third, SQ was assessed from the provider's internal perspective rather than from end customers. Although internal assessments are valid and widely used in ITO research, triangulating internal and external evaluations would strengthen construct validity.

Finally, the model excluded control variables such as firm size, industry specialization, and knowledge intensity, which may moderate relationships between turnover intention, KM, and SQ. Similarly, robustness checks (e.g., subgroup analyses, cross-validation) were not conducted. Addressing these aspects in future studies would improve explanatory power and external validity.

Future Research

Given that this study focuses on Peruvian ITO firms, future research should examine KM's mediating role across industries, countries, and cultural contexts. Cross-country comparisons, particularly between developed, emerging, and developing economies, could reveal how institutional and technological factors shape KM strategies and their influence on SQ. Methodologically, the use of a cross-sectional design limits temporal insights. Longitudinal studies could capture how KM strategies evolve over time and measure not only turnover intention but also actual turnover in service organizations.

With the rise of artificial intelligence-powered KM systems, machine learning, and blockchain-based knowledge protection, future studies could investigate how these technologies strengthen knowledge retention and mitigate turnover risks. Techniques such as sentiment analysis may also help organizations monitor employee attitudes and proactively adjust KM strategies (C. Yang et al., 2024).

Beyond KM processes, research should consider the role of organizational culture, leadership commitment, employee engagement, and workplace collaboration in shaping the KM–turnover–SQ relationship. Likewise, exploring the interaction between KM and retention policies could clarify whether robust KM practices enhance employee satisfaction and reduce turnover.

Finally, adopting a multi-level perspective—analyzing KM's effects at individual, team, and organizational levels—would provide a more holistic understanding of how KM sustains SQ. In addition, incorporating control variables (e.g., firm size, industry specialization, knowledge intensity) would allow future studies to refine the explanatory power of KM's mediating role. Addressing these areas would advance theory and practice in ITO, KM, and SQ, offering valuable insights for scholars and managers alike.

Competing Interests Statement

The authors of this publication declare there are no competing interests.

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Appendix

Measurements Items and Sources

Table 9. *Measurement Items for Knowledge Management, Service Quality and Turnover Intention*

Constructs	Factors	Items	Measurements	Source
Knowledge management (KM)	Acquisition	KM1	We are already equipped with the sufficient expertise	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
		KM2	We are proactive in acquiring new knowledge	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
	Conversion	KM3	We are already equipped with the ability to methodically classify and generalize corporate knowledge	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
		KM4	We are already equipped with the ability to transfer corporate knowledge to individuals	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
	Application	KM5	We are already equipped with the ability to apply knowledge to adjust strategic direction	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
		KM6	We are already equipped with the ability to apply knowledge to solve problems	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
		KM7	We are already equipped with the ability to apply knowledge to face challenges from competitors	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
	Protection	KM8	We are already equipped with the ability to apply information technology (IT) to prevent any inappropriate knowledge accessing	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
		KM9	Our company has established effective protective policies and procedures to prevent knowledge theft	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
		KM10	Our company has established effective protective policies and procedures to prevent knowledge from any inappropriate access and usage	Tseng (2016), adapted from Gold et al. (2001) and Tanriverdi (2005)
Service quality (SQ)		SQ1	We can fulfill promises to our customers on time	"Parasuraman et al. (1988)" by: Tseng (2016)
		SQ2	We can immediately respond to customer demands	"Parasuraman et al. (1988)" by: Tseng (2016)
		SQ4	Compared with other companies in the same industry, we are equipped with excellent communication skills	"Parasuraman et al. (1988)" by: Tseng (2016)
		SQ6	Compared with other companies in the same industry, we can provide customized services based on customers' demands	"Parasuraman et al. (1988)" by: Tseng (2016)
		SQ7	Compared with other companies in the same industry, we can place ourselves in our customers' shoes	"Parasuraman et al. (1988)" by: Tseng (2016)

Constructs	Factors	Items	Measurements	Source
Turnover Intention		TIS1	How often have you considered leaving your job?	Bothma and Roodt (2013)
		TIS2	How satisfying is your job in fulfilling your personal needs?	Bothma and Roodt (2013)
		TIS3	How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?	Bothma and Roodt (2013)
		TIS4	How often do you dream about getting another job that will better suit your personal needs?	
		TIS5	How likely are you to accept another job at the same compensation level should it be offered to you?	Bothma and Roodt (2013)

Note. TI = Turnover intention; TIS = Turnover intention scale; SQ = Service quality; KM = Knowledge management. Items adapted from Bothma and Roodt (2013) and Tseng (2016).

Author´s Resumes

JC Aliaga is a senior executive specialized in operations management and digital transformation within the IT sector. He currently serves as Operations Director of Global Hitss (HITSS) Peru, a subsidiary of America Movil Group. In parallel with his executive career, he is a professor in master´s and executive education programs at the Universidad del Pacifico and Universidad del Piura, contributing to the development of future leaders in IT management and digital transformation projects.

Ruben Guevara holds a Doctorate (PhD) in economics and natural resource management from the University of Idaho. He also holds a postgraduate diploma in business administration from Harvard Business School, Harvard University. Among the various posts that he has held, these are the most recent ones: Regional Manager for South America for the Campaigns, Policy, and Communications Division of Oxfam Great Britain, based in Lima; Director in Brazil and regional officer for Latin America and the Caribbean for International Tropical Timber Organization / United Nations Conference on Trade and Development (ITTO/UNCTAD), based in Brazil; Regional Director for Latin America at the World Agroforestry Centre of the Consultative Group on International Agricultural Research / World Bank (CGIAR/World Bank), based in Lima; Director-General and CEO at CATIE (Tropical Agricultural Research and Graduate Teaching Center) in Costa Rica; and Vice-Minister of the Natural Resources of Honduras. He has been a member of over 20 boards of directors, and has been chair or vice chair, in companies and other organizations located on four continents. He is presently a Distinguished Professor, Chairman of the Board of Directors, and director-general at Centrum PUCP Graduate Business School in Lima, which is part of the Pontificia Universidad Catolica del Peru.

Chapter II. Conclusions and Recommendations

Conclusions

General Conclusions

The results of this study confirm that knowledge management (KM) processes play a significant mediating role between turnover intention and service quality in Information Technology Outsourcing (ITO) firms. Although turnover intention negatively affects operational performance, structured KM practices function as an organizational resilience mechanism that helps sustain service quality in high-turnover environments.

Effect of Turnover Intention on Knowledge Management (H1)

The findings support hypothesis H1: that turnover intention negatively affects KM in ITO firms. When employees consider leaving, their willingness to share, document, or transfer knowledge decreases, weakening knowledge continuity and increasing operational vulnerability.

Effect of Turnover Intention on Service Quality (H2)

Hypothesis H2 was also confirmed: turnover intention has a negative and statistically significant impact on service quality. Given that ITO operations depend heavily on tacit expertise and accumulated experience, workforce instability reduces responsiveness, accuracy, and consistency in service delivery.

Direct Influence of Knowledge Management Processes on Service Quality (H3a–H3d)

The results confirmed hypotheses H3a - H3d, showing that all four KM subprocesses (knowledge acquisition, conversion, application, and Protection) positively and significantly influence service quality. This validates the premise that strong KM capabilities enhance operational execution in knowledge-intensive service environments.

Mediating Role of Knowledge Management Processes (H4a–H4d)

Hypotheses H4a–H4d were also supported: each KM subprocess significantly mediates the

relationship between turnover intention and service quality. This demonstrates that KM practices help buffer the negative consequences of turnover intention and reduce operational disruption. KM causes a complementary mediation in the abovementioned relationship.

Differentiated Contribution of KM Subprocesses, Highlighting Knowledge Protection

Finally, the analysis revealed that knowledge protection is the strongest mediator, followed by knowledge application, conversion, and acquisition. This finding offers an important theoretical contribution by demonstrating that not all KM practices exert equal influence; in high-turnover outsourcing environments, mechanisms that safeguard critical knowledge are the most decisive in sustaining service quality.

Implications

Theoretical Implications

This research provides several contributions to the theoretical understanding of knowledge management and service performance in ITO environments. First, the study empirically demonstrates that knowledge management processes mediate the relationship between turnover intention and service quality, adding measurable validation to the knowledge-based view and resource-based view frameworks. While prior studies acknowledged the importance of knowledge as a strategic organizational resource, few had empirically tested how specific knowledge management subprocesses operate under conditions of workforce instability.

Second, the differentiated significance of the KM subprocesses, particularly the dominant role of knowledge protection, advances theory by showing that not all knowledge capabilities contribute equally to organizational resilience. This finding introduces a nuanced perspective into existing knowledge management models, which traditionally treat acquisition, conversion, application, and protection as parallel and equally influential components. Finally, the study addresses a critical gap in IT outsourcing literature by shifting

the analytical perspective from the client side to the provider side, offering empirical evidence from an emerging economy context, where knowledge loss and turnover rates are substantially higher and understudied.

Practical Implications

From a managerial viewpoint, the results of this research emphasize the need for organizations operating in the ITO sector to adopt intentional and systematic knowledge management strategies. The strong mediating effect of knowledge protection suggests that firms should prioritize the development of secure repositories, controlled documentation environments, and formal mechanisms to safeguard critical operational knowledge. Practices such as process standardization, mandatory documentation checkpoints, and version-controlled repositories can significantly reduce the dependency on individual expertise

Furthermore, organizations should recognize employee turnover intention as an operational risk variable rather than solely an HR concern. Early detection mechanisms, such as engagement surveys or predictive analytics based on behavioral data, can support proactive knowledge retention and transition planning. Finally, investments in digital knowledge platforms, competency-based development programs, and reward structures that encourage knowledge sharing can contribute to improving service quality sustainability and strengthening organizational learning capability—even in environments characterized by high workforce mobility.

Recommendations

Recommendations for Future Research

Based on the findings and methodological scope of this study, several opportunities for future research emerge. First, the model should be replicated in other geographic contexts and industries to validate its generalizability, particularly in developed economies where labor stability, digital maturity, and organizational learning structures differ significantly from those

observed in Latin American ITO firms. Second, longitudinal studies are recommended to assess how the relationships among turnover intention, knowledge management processes, and service quality evolve over time, especially before, during, and after employee exits.

Future research may also incorporate moderating variables such as leadership style, organizational learning culture, and digital knowledge infrastructure, as these factors may strengthen or weaken the effect of knowledge management on service continuity. Additionally, qualitative or mixed-method approaches could provide deeper insights into how knowledge is retained, shared, and protected in critical operational scenarios such as escalation events or client transitions.

Finally, future research should explore the role of emerging technologies, such as AI-driven knowledge repositories and intelligent automation, in mitigating knowledge loss and enhancing service quality in high-turnover environments.

Recommendations for Managerial Practice

Given the strong mediating effect of knowledge management processes identified in this study, managers in ITO firms should prioritize the development of structured and institutionalized knowledge management practices. In particular, the results highlight the strategic importance of knowledge protection, suggesting that organizations should invest in secure documentation systems, standardized procedures, and codified operational frameworks that reduce dependency on individual expertise.

Human resource leaders and operations executives are encouraged to align talent management strategies with knowledge continuity mechanisms, including onboarding frameworks, shadowing programs, continuous learning environments, and reward systems that incentivize knowledge sharing. Additionally, firms should evaluate and modernize their technological platforms to support knowledge acquisition, conversion, and application using

best-practice frameworks such as ISO 30401, SECI, or ITIL Knowledge Management guidelines.

Finally, turnover signals should be treated as operational risk indicators rather than isolated HR metrics. Early detection mechanisms, combined with contingency planning and resource redundancy models, can significantly reduce vulnerability and help sustain service quality during workforce transitions.

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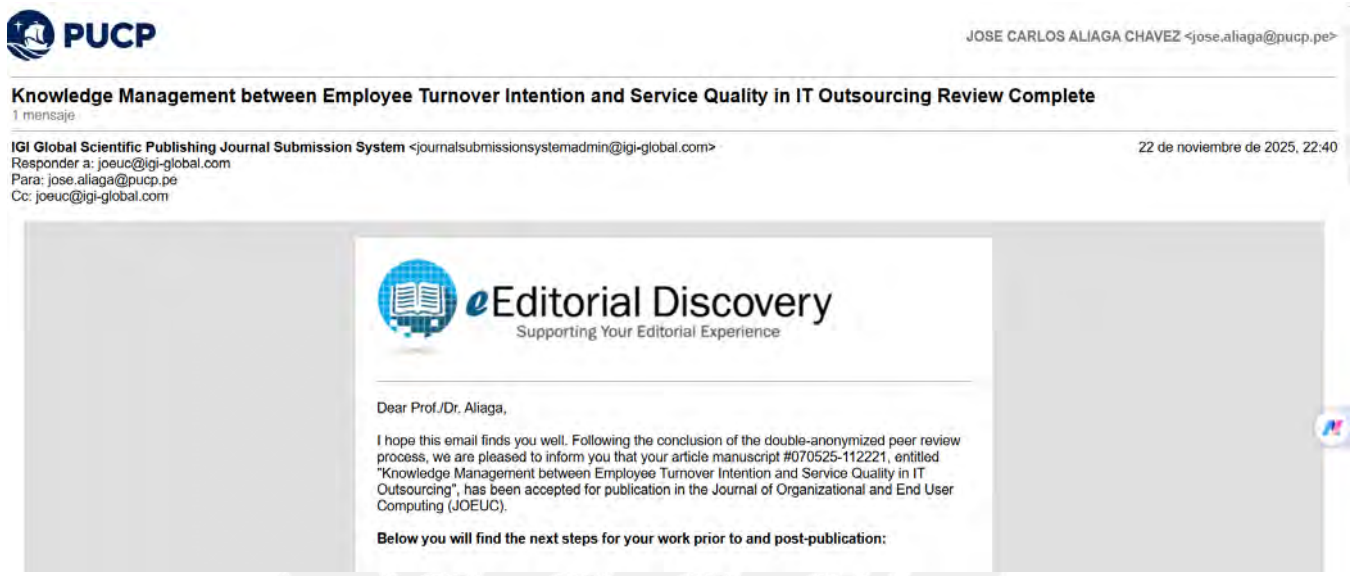
Appendices

Appendix A. Acceptance Letter

This appendix contains the official acceptance notification of the research article included in Chapter I. The acceptance confirmation was received on November 22, 2025, and serves as verification that the article satisfies the publication requirement established by CENTRUM PUCP for doctoral graduation.



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Knowledge Management between Employee Turnover Intention and Service Quality in IT Outsourcing Review Complete

1 mensaje

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Dear Prof./Dr. Aliaga,

I hope this email finds you well. Following the conclusion of the double-anonymized peer review process, we are pleased to inform you that your article manuscript #070525-112221, entitled "Knowledge Management between Employee Turnover Intention and Service Quality in IT Outsourcing", has been accepted for publication in the Journal of Organizational and End User Computing (JOEUC).

Below you will find the next steps for your work prior to and post-publication: