

Leveraging Knowledge Management Processes to Enhance Employee Performance through Motivation: A Social Exchange Theory Perspective in Pakistani Healthcare Organizations.

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ABSTRACT

Purpose - The healthcare sector in Pakistan faces challenges like resource constraints, operational inefficiencies, and knowledge gaps. This study examines the impact of KMPs on employee performance in public hospitals, focusing on the role of employee motivation as a mediator. Based on Social Exchange Theory (SET), it explores how KMPs enhance performance when employees are motivated.

Study Design/methodology/approach- A survey was distributed to 500 employees across various public hospitals in Pakistan, with 384 responses received. The sample included doctors, nurses, administrative staff, and technicians, ensuring a comprehensive analysis of knowledge management processes (KMPs). Respondents were drawn from public hospitals to capture variations in organizational structures and resources. The study used Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the impact of KMPs on employee performance and the mediating role of motivation.

Findings- The findings showed a positive relationship between KMPs and employee performance, with motivation acting as a significant mediator. However, knowledge sharing alone did not improve performance due to cultural barriers, inadequate infrastructure, lack of incentives, and ineffective knowledge transfer. These results highlight that while knowledge-sharing initiatives are important, employee motivation is crucial for effective KMP implementation.

Research Practical Implications- This study provides theoretical and practical insights for healthcare organizations. To maximize KMP benefits, hospitals should implement motivation-enhancing strategies like rewards, recognition, and professional development. Additionally, establishing knowledge-sharing platforms and strong leadership support is crucial to overcoming implementation challenges and fostering employee engagement in knowledge management initiatives.

Originality/value- This research contributes to the existing literature and extends the social exchange theory by demonstrating that knowledge management processes alone do not automatically enhance performance. Instead, employees must perceive tangible benefits for their contributions, reinforcing the reciprocal nature of motivation.

Keywords: Knowledge Management, Knowledge Management process, Knowledge creation, Employee motivation, Employee performance, public hospitals in Pakistan.

JEL Classification Codes: D03, D83, P36, P47, I18, I11

1 | INTRODUCTION

In today's volatile global economy, human capital (employees) has emerged as a significant asset for organizations seeking a competitive edge. Human capital (employees), which encompasses the skills, knowledge, and abilities of employees, plays a pivotal role in driving organizational success ([Suprayitno, 2024](#)). In this context, employee performance emerges as a significant factor for organizational competitiveness and sustainability ([Memon et al., 2023](#)). Therefore, employee performance is considered a key determinant of organizational growth, productivity, profitability, and customer satisfaction, as well as the achievement of strategic goals ([Wu, 2024](#)). Employee performance (EP) is defined as the ability of an employee to perform tasks effectively and produce a high level of output ([Riski & Rino, 2024](#)). However, this performance is influenced by a multitude of factors, including digital leadership, artificial intelligence ([Li et al., 2023](#)), work motivation ([Munda et al., 2024](#)), COVID-19 ([Riski & Rino, 2024](#)), organizational commitment ([Amelia et al., 2024](#)), corporate governance ([Raza et al., 2023](#)), and even psychological factors such as depression, anxiety, and stress ([Sun et al., 2022](#)).

The COVID-19 pandemic—a global crisis—has profoundly impacted societies, businesses, and organizations worldwide, significantly affecting employee performance ([Qadri et al., 2023](#)). The pandemic left many employees psychologically unprepared to resume their normal work, making post-pandemic performance a critical issue globally ([Sun et al., 2022](#)). In this context, researchers have focused on identifying factors that can enhance employee performance, particularly in the healthcare sector of Pakistan. The pandemic underscored the importance of re-engaging workers through improved performance and knowledge management practices to ensure organizational stability and recovery ([Narayanamurthy & Tortorella, 2021](#)). Knowledge Management (KM), defined as the systematic process of acquiring, transferring, and utilizing knowledge, has become a crucial tool for improving employee performance and organizational resilience in uncertain environments ([Nonaka et al., 2009](#)).

Knowledge Management involves implementing best practices such as knowledge acquisition, documentation, storage, dissemination, and utilization to enhance organizational performance ([McInerney & Koenig, 2011](#)). [Nonaka \(1994\)](#), categorized KMPs into three main areas: knowledge acquisition, incorporation, and dissemination. [Demarest \(1997\)](#) expanded this framework to include knowledge creation, acquisition, distribution, and application. More recently, [Budur et al. \(2024\)](#), identified processes such as knowledge acquisition, storage, search, sharing, and utilization. These interrelated activities form the knowledge management process cycle, which is particularly vital in knowledge-intensive industries like healthcare.

Pakistan's healthcare system faces numerous challenges, including workforce shortages, limited resource management, operational inefficiencies, and increasing patient demands ([Karamat et al., 2018](#)). Effective KM can help bridge these gaps by ensuring that critical medical knowledge, best practices, and patient data are systematically acquired, stored, and disseminated ([Salam & ul Haq, 2024](#)). This is particularly important in a resource-constrained environment where healthcare professionals often lack access to up-to-date information and training. Furthermore, KM can enhance operational efficiency, reduce errors, and improve patient outcomes by enabling healthcare workers to make informed decisions ([Sajal, 2024](#)). Additionally, while many

studies focus on the direct impact of KM on performance, they often neglect the mediating role of employee motivation, which is crucial for successful KM implementation ([Muslim & Muadsim, 2023](#)). This study addresses these gaps by examining how KM processes, coupled with motivation, can enhance employee performance in Pakistan's healthcare sector, providing both theoretical and practical insights for policymakers and healthcare administrators. In healthcare, where service quality directly impacts patient outcomes, understanding the role of employee motivation is very important ([Hoxha et al., 2024](#)). Motivation, defined as the internal drive that directs employees toward goal achievement ([Forson et al., 2021](#)), is essential for fostering knowledge sharing, creativity, and performance in the workplace ([Ryan & Deci, 2021](#)).

The rising interest in knowledge management and employee performance remains underexplored in published literature. Most studies examine KM practices in corporate environments but fail to address healthcare implications. Additionally, research has largely overlooked motivation as a mediating factor between KM practices and employee performance, treating KM as an independent mechanism without considering its interaction with motivational drivers. Furthermore, while Social Exchange Theory (SET) has been extensively applied in organizational studies, its application in healthcare knowledge management remains underexplored. This study aims to bridge these gaps by:

- To Investigate knowledge management practices in Pakistan's healthcare sector.
- To empirically test the role of motivation as a mediating factor between KM practices and employee performance.
- To apply Social Exchange Theory to analyze healthcare knowledge-sharing behaviors.
- This study seeks to answer the following key questions:
 - How do KMPs influence employee performance in Pakistan's healthcare organizations?
 - What is the role of motivation in mediating the relationship between KMPs and employee performance?
 - How can healthcare organizations enhance employee motivation to maximize the effectiveness of KMPs?

This study offers significant practical and theoretical implications for healthcare organizations, policymakers, and researchers, particularly in the context of Pakistan's healthcare sector. Practically, this study helps the healthcare organizations in Pakistan leverage knowledge-management processes (KMPs) to improve employee efficiency, reduce operational inefficiencies, and ensure better service delivery. Additionally, this study will help healthcare administrators and policymakers to implement knowledge-sharing platforms and leadership-driven knowledge management practices to overcome knowledge gaps and ensure effective decision-making. Theoretically, this study extends the application of SET by demonstrating that employees engage in knowledge-sharing practices when they perceive tangible benefits, reinforcing the reciprocal nature of motivation in knowledge exchange. Additionally, the study empirically validates the effectiveness of knowledge management practices such as knowledge acquisition, storing, sharing, and application in improving employee outcomes, offering a foundation for future research on knowledge-based organizational performance in the healthcare sector.

2 | LITERATURE REVIEW

The link between the Knowledge Management Process as well as Motivation and Employee Performance has been of concern in the Organizational Behavior (OB) and management research stream. Thus, the purpose

of current research is to examine KMP's relationship with EP with the intervening variable of motivation, in the context of healthcare organizations in Pakistan. Two theoretical frameworks—Social Exchange Theory (SET) and Expectancy Theory of Motivation (ETM)—are useful in explaining the dynamics of the observed relationship.

2.1 | Theoretical Background

Social Exchange Theory (SET) provides a strong basis to analyze the mutual interdependencies between employees and organizations. [Blau \(1964\)](#), within the SET framework, argued that social and organizational exchanges (e.g., efficient knowledge-management processes) foster trust, commitment, and positive organizational outcomes. In the performance-related field of healthcare, SET demonstrates how organizations providing knowledge-supporting environments can increase motivation in their employees. In return, motivated employees are known to reciprocate by improving their performance and showing high levels of commitment to the organizational goals and mandate. The current study leverages Social Exchange Theory (SET) to examine the role of Employee Motivation (EM) in mediating the relationship between Knowledge Management Processes (KMP) and Employee Performance (EP). Given the social exchange theory, KMP fosters a reciprocal relationship between employees and the organization by providing rewards in exchange for their productivity. Consequently, it is the organization's responsibility to build, improve, and maintain a supportive culture that encourages employees to perform at their best to achieve optimal outcomes ([Melkamu, 2023](#)). Effective implementation of KMP helps create an effective organizational system but also sustains long-lasting success because KMP drives a motivated workforce with the firm's goals and values. According to Social Exchange Theory (SET), knowledge sharing is a reciprocal process in which employees exchange information with the expectation of future rewards. However, in hierarchical healthcare environments, senior practitioners may have control over information flow, which limits reciprocity. To address this, trust must be fostered, as well as established incentives for cross-level information exchange.

The Expectancy Theory of Motivation (ETM), proposed by [Vroom \(1964\)](#), focuses on expectations. The theory comprises three components: (1) effort expectancy (the perception that effort will yield performance), (2) performance expectancy and (3) reward. In healthcare organizations, KMP map roles, to goals- knowledge management goals- as a way of assisting employees in understanding how efforts made toward the acquisition of knowledge aid in the achievement of organizational performance. In other words, if knowledge creating or sharing activity of the employees is linked with some form of rewards including promotions, incentives, satisfaction, or anything that has real value in the eyes of employees then the employees are likely to perform more enthusiastically. In this context, motivation, with reference to KMP, is a crucial link between knowledge processes and the performance of the employees who will ultimately enhance operational effectiveness as well as patient quality care in healthcare facilities. Employees will put in their best effort because they believe they can receive rewards with respect to their effort, that is the main theme of ETM. The resource-constrained healthcare environment of Pakistan makes employees feel their rewards are minimal due to financial limitations and workload demands. Employees will bridge this gap when organizations offer professional recognition alongside skill development opportunities which are alternate performance rewards.

2.2 | Employee Performance (EP)

Employee performance refers to the extent to which employees achieve their assigned tasks and contribute to organizational objectives ([Yimam, 2022](#)). It encompasses behaviors and outcomes that align with an organization's strategic goals, culture, and mission. High-performing employees drive organizational growth, foster innovation, and enhance overall productivity ([Wang et al., 2024](#)). Conversely, poor performance can hinder growth, strain team relationships, and waste resources. Recent studies emphasize the need for a deeper theoretical understanding of employee performance, particularly in the context of knowledge-intensive industries like healthcare. The role of knowledge and motivation in shaping performance remains an area of growing research interest.

2.3 | Knowledge Management Process (KMP)

Knowledge Management (KM) is a systematic process of acquiring, storing, sharing, and applying knowledge to improve organizational decision-making and employee performance ([Zaied et al., 2012](#)). [Nonaka et al. \(2009\)](#), describe KM as a crucial process for enhancing organizational stability and performance. The KMP typically involves four phases: knowledge creation, storage, sharing, and application ([Madbouly et al., 2021](#)). However, Pakistan's healthcare sector faces significant knowledge-management challenges, including outdated IT systems and low digital literacy ([Karamat et al., 2018](#)). Addressing these barriers through user-friendly digital systems and training can enhance knowledge-sharing and employee performance.

2.4 | Knowledge Management Process and Employee Performance

KMPs play a vital role in improving employee performance by providing timely access to critical information and resources. KMPs have the greatest impact when employees need specific information or resources. Efficient KM delivery enhances productivity and decision-making ([Sundram et al., 2020](#)). Knowledge creation fosters innovation and adaptability, enabling employees to develop new solutions and improve decision-making (Nonaka, 1994). Knowledge sharing promotes collaboration and learning, creating a culture where employees leverage collective expertise to achieve organizational goals ([Olmstead, 2021](#)). However, trust issues and hierarchical structures often hinder knowledge sharing in healthcare settings. Building trust and implementing recognition policies can mitigate these barriers. This study examines motivation as a mediator, enhancing the effectiveness of KMPs in healthcare organizations. Current research shows that organizations with effective KM systems have better levels of employee engagement and productivity because employees can rapidly apply the assimilated knowledge to their work ([Obeng et al., 2024](#)). Finally, the KM process affects the performance of the employees showing how important it is for an organization to adopt and develop its KM model. Hence, the author of this study also integrates this KM model of four steps of knowledge creation, knowledge storage, knowledge sharing, and knowledge application for this study.

A. Knowledge Creation and Employee Performance

Knowledge creation involves generating new knowledge, ideas, and solutions to organizational challenges. It encompasses both tacit knowledge (personal, experience-based) and explicit knowledge (formal, codified) ([Laeque & Babar, 2017](#)). The SECI model (Socialization, Externalization, Combination, Internalization) by [Nonaka \(1994\)](#), provides a framework for understanding knowledge creation. Studies show that knowledge creation directly impacts employee performance by equipping employees with the tools and

information needed to perform tasks effectively ([Gates, 2024](#)). For instance, problem-solving skills and innovation are enhanced when employees contribute to knowledge creation. In healthcare, strategic initiatives such as digital data centers and clinical support tools can integrate knowledge creation with routine practices. Nevertheless, growing literature supports the view that knowledge creation may help enhance the degrees of innovation, as well as the performance levels of firms ([Shu et al., 2012](#)). A growing body of research supports the role of knowledge creation in enhancing innovation and firm performance. The study of [Gong et al. \(2013\)](#), shows that the knowledge created and the employee performance has a positive or negative relationship; therefore, the need for this study arises to find out how each of them has a relationship with the other. Based on the discussion above the following hypothesis was made hypothesis.

H₁. *Knowledge Creation has a significant impact on employee performance in the health sector of Pakistan.*

B. Knowledge Storage and Employee Performance

Knowledge storage involves organizing and preserving knowledge in repositories for future use. It transforms tacit knowledge into explicit knowledge, making it accessible to employees ([Kordab et al., 2020](#)). Modern storage systems, such as cloud computing and artificial intelligence, facilitate efficient knowledge sharing and retrieval ([Hoxha et al., 2024](#)). The current modern knowledge storage systems integrate advanced technologies, such as cloud computing and artificial intelligence. These systems also not only enable the free flow of access to the total amount of knowledge consist of but also enhance the process of the employees sharing the stored knowledge with other teams and departments through the use of some of the key features contained in knowledge management systems ([Mallesha, 2019](#)). Finally, the proper maintenance of stored knowledge that keeps organizational knowledge resource undamaged when an employee is transferred or dismissed is beneficial to performance stability in the long term ([Othman, 2023](#)). However, challenges such as poorly defined systems and infrequent updates can hinder effectiveness ([Idrees et al., 2023](#)). Addressing these issues through robust storage solutions and employee training can enhance performance by preventing the "reinvention of the wheel". Solving these issues necessitates effective storage solutions in organizations as well as training of employees on how to use the systems. To confirm the findings that knowledge storage impacts the performance of an employee the following hypothesis was developed:

H₂: *Knowledge Storing has a significant impact on employee performance in the health sector of Pakistan.*

C. Knowledge Sharing and Employee Performance

Knowledge sharing is the process of transferring knowledge, skills, and experiences among individuals, teams, or organizations ([Marques et al., 2019](#)). Therefore, the organization's capabilities may be enhanced because of the spread of knowledge between the two parties and other core competency patterns such as the identification, analysis, decision-making processes, leadership, the manner of handling problems, resource optimization, and creativity may enhance ([Kordab et al., 2020](#)). It enhances collaboration, decision-making, and innovation, leading to improved performance ([Fayyaz et al., 2020](#)). However, trust issues and hierarchical

structures often impede knowledge sharing in healthcare settings. Formal mechanisms (e.g., training sessions) and informal practices (e.g., interpersonal communication) can facilitate knowledge sharing and improve performance ([Mueller, 2015](#)). In light of the above understanding, the following hypothesis was developed so as to test the worth of sharing knowledge on employee performance among the growing economies of health sector.

H₃: *Knowledge Sharing has significant impact on employee performance in the health sector of Pakistan.*

D. Knowledge Application and Employee Performance

Knowledge application involves using acquired knowledge to perform tasks and achieve organizational goals ([Haddadi Harandi et al., 2019](#)). Knowledge application is the ability to put knowledge to the right use. They will allow to integration of the newly created and bought knowledge into the available resources for executing business processes, functions, and activities to enhance the outcomes of the organization ([Areed et al., 2020](#)). It minimizes errors, reduces duplication, and enhances efficiency ([Khoa & Chinda, 2023](#)). In healthcare, knowledge application is facilitated by tools such as decision support systems and continuous improvement programs ([Lam et al., 2021](#)). Feedback from management further enhances knowledge utilization and employee outcomes. According to ([Kocjancic & Gricar, 2023](#)), knowledge application enabler that provides tools and training to the organization provide great returns on performance improvement for all levels of employment. Knowledge application is facilitated by such organization enablers as knowledge training, knowledge decision support systems, and knowledge collaboration tools. That's why this study aims to evaluate the whole knowledge management process and in relation to it, to define the impact of knowledge application on employee performance. Therefore, the following hypothesis has been developed:

H₄: *Knowledge Application has significant impact on employee performance in the health sector of Pakistan.*

2.5 | Employee Motivation

Employee motivation refers to the internal and external drives that influence employees to achieve personal and organizational goals ([Bandhu et al., 2024](#)). Theories such as Maslow's Hierarchy of Needs, Herzberg's Two-Factor Theory, and Social Exchange Theory provide frameworks for understanding motivation. This study emphasizes the importance of addressing healthcare employees' needs at all levels of Maslow's hierarchy. For example, providing fair wages (physiological needs), ensuring safe working conditions (safety needs), fostering teamwork (social needs), recognizing contributions (esteem needs), and offering professional development opportunities (self-actualization) can enhance motivation and, consequently, the effectiveness of Knowledge Management Processes (KMPs). By aligning KMPs with these needs, healthcare organizations in Pakistan can create a more motivated workforce that actively engages in knowledge-sharing and performance improvement. This study highlights the need to address both hygiene factors and motivators in Pakistan's healthcare sector. For example, improving working conditions and salaries (hygiene factors) can reduce dissatisfaction, while implementing recognition programs and career development opportunities (motivators) can enhance motivation. By integrating these factors into KMPs, healthcare organizations can create an environment where employees are motivated to share knowledge and

improve performance. This study leverages SET to explain how healthcare employees in Pakistan are motivated to engage in KMPs. For instance, when employees perceive that knowledge sharing will lead to recognition, career advancement, or improved patient outcomes, they are more likely to participate actively. The study also examines how trust and reciprocity influence knowledge-sharing behaviors, particularly in hierarchical healthcare settings. By addressing these factors, healthcare organizations can enhance the effectiveness of KMPs and improve employee performance.

In healthcare, intrinsic motivators (e.g., commitment to patient care) and extrinsic motivators (e.g., recognition, career growth) are critical for sustaining knowledge-sharing behaviors. This study is based on two frameworks to address how modern workplaces and practices affect motivation. Employees have also been motivated through the use of technology and digital tools for instance through recognition, communication, and collaboration platforms ([Pratt & Cakula, 2021](#)). In the digital age, people can manipulate motivation at the workplace; for instance, through the incorporation of items such as real-time feedback and modern technologies. The digital tools foster interactivity at the workplace, making the employees more willing a motivated to perform the tasks through the inclusion of features such as a progress bar, incentives, and acknowledgement.

2.6 | Knowledge Management Process, Employee Motivation, and Employee Performance

This research shows that the combined adoption of the knowledge management process and the motivation of employees played a major role in affecting the performance of the employees. The organizational knowledge management process can determine how employees can get the knowledge required in the performance of their tasks, which can lead to improved motivation and therefore performance ([Al Dabbas & Daud](#)). [Akerele \(2023\)](#), also identified that when utilizing the knowledge resources, employees would be motivated to use the insight once applied in solving organizational problems or making decisions. According to the work ([Supomo, 2024](#)), effectiveness of the knowledge sharing increases when it is accompanied by high levels of motivation because employees with high motivation will be able to relate to the shared knowledge and will ensure that the results are improved. [Shea et al. \(2023\)](#), also note that motivation acts as a moderator between KMP and performance since it ensures employee effective utilizing of tools and resources offered by KMSs.

This study highlights the mediating role of employee motivation in the relationship between KMPs and employee performance. Motivated employees are more likely to engage in knowledge-sharing activities, leading to improved performance ([Akerele, 2023](#)). Intrinsic motivators (e.g., professional growth) and extrinsic motivators (e.g., incentives) enhance the effectiveness of KMPs in healthcare settings. Addressing both dimensions of motivation is essential for successful KMP implementation. Based on the above discussion, the following hypotheses are formulated:

H₅: *Employee motivation mediates the relationship between knowledge creation and employee performance in the health sector of Pakistan.*

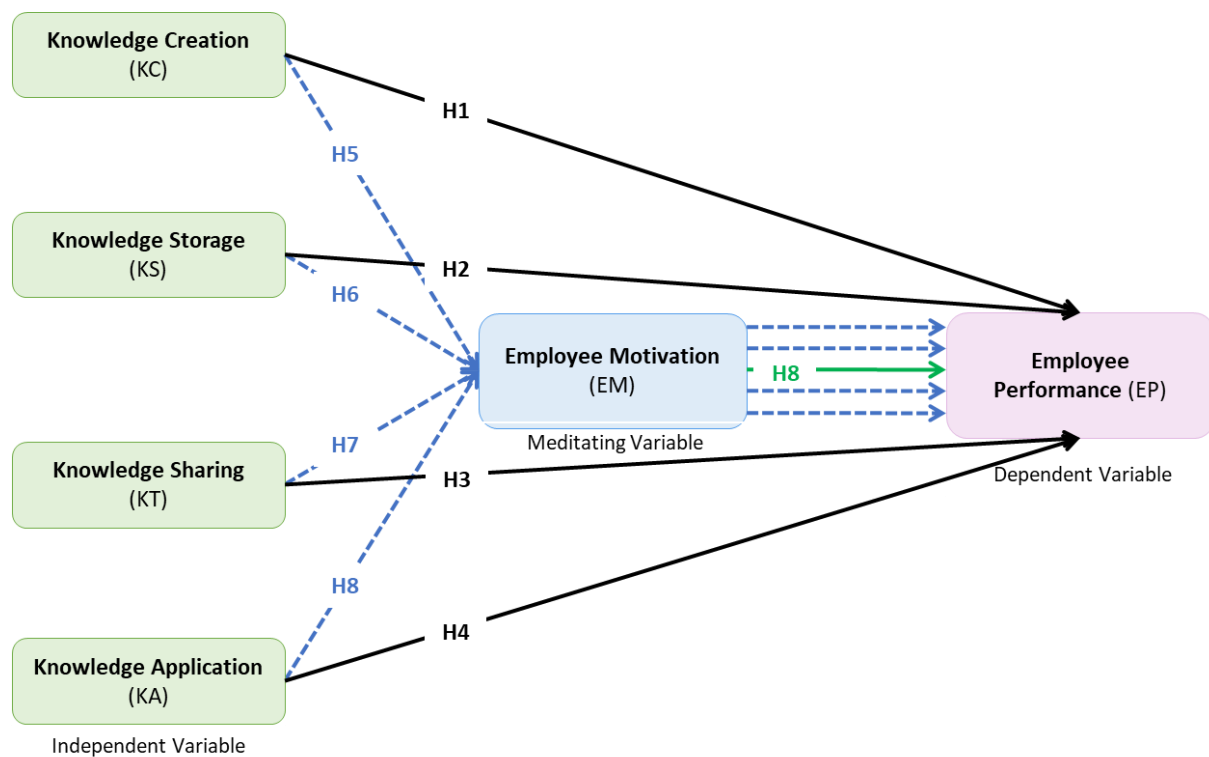
H₆: *Employee motivation mediates the relationship between knowledge storage and employee performance in the health sector of Pakistan.*

- H₇:** *Employee motivation mediates the relationship between knowledge sharing and employee performance in the health sector of Pakistan.*
- H₈:** *Employee motivation mediates the relationship between knowledge application and employee performance in the health sector of Pakistan.*

This research shows that the combined adoption of the knowledge management process and the motivation of employees played a major role in affecting the performance of the employees in the healthcare sector in Pakistan. The literature defines there are two major types of knowledge 1) Tacit Knowledge and Explicit Knowledge. Tacit knowledge, which is personal, experience-based, and difficult to formalize, plays a critical role in healthcare settings. Unlike explicit knowledge, which can be easily documented and shared, tacit knowledge resides in the minds of individuals and is often shared through interpersonal interactions and practical experiences. Junior doctors, nurses, and other healthcare professionals often learn from experienced colleagues through observation, imitation, and guided practice. For example, a senior surgeon may demonstrate a surgical technique to a junior doctor, allowing the latter to internalize the knowledge through practice. Healthcare professionals share tacit knowledge through storytelling, where they discuss real-life cases, challenges, and solutions. This method helps convey nuanced insights that cannot be captured in written guidelines. For instance, during hospital rounds, senior doctors may share their experiences in diagnosing complex cases, providing junior staff with practical insights.

The existing literature provides valuable insights into the relationship between Knowledge Management Processes (KMPs), employee motivation, and employee performance, several conflicting findings and limitations warrant closer examination, especially in the context of healthcare and developing economies like Pakistan. Some studies suggest that knowledge sharing significantly enhances employee performance by fostering collaboration and innovation ([Fayyaz et al., 2020](#)). However, other research indicates that knowledge sharing alone may not yield significant performance improvements, particularly in hierarchical or culturally constrained environments ([Olmstead, 2021](#)). For instance, in Pakistan's healthcare sector, trust issues and fear of exploitation often hinder knowledge sharing among employees, limiting its effectiveness. Motivation is also widely recognized as a critical factor in enhancing KMP effectiveness, there is disagreement about the relative importance of intrinsic versus extrinsic motivators. Some studies emphasize intrinsic motivators, such as professional growth and commitment to patient care, as the primary drivers of knowledge-sharing behaviors ([Akerele, 2023](#)). In contrast, others argue that extrinsic motivators, such as financial incentives and recognition, are more effective in resource-constrained settings ([Supomo, 2024](#)). This divergence highlights the need for context-specific research. The literature often emphasizes the importance of explicit knowledge (codified and easily transferable) in improving performance.

Based on the previous empirical research and the above-hypothesized framework, Figure 1 outlines the Research Framework of this study.

Figure 1.*Research Model*

3 | METHODOLOGY & DESIGN

This research focuses on establishing the correlation between independent variables and dependent variables. The independent variables include knowledge creation, knowledge storage, knowledge sharing, and knowledge application; the dependent variable is employee performance. Motivation is proposed as the mediating variable in this study. The research adopts the Social Exchange Theory (SET) to demonstrate how employees share knowledge after understanding that both professional career growth and organizational advantages will result from such cooperation. Employee motivation to engage in KMPs is explained by ETM, which links effort-reward dynamics to professional advancement and performance recognition. The theoretical foundations operate as a framework for proposed relationships in this conceptual model which creates a strong base for research validity.

3.1 | Population and Sample Size

The study targets the health sector employees of Pakistan. In this view, a convenience sampling technique was used for selecting the study respondents because it is easy to use and fast in collecting data from the study participants. Due to logistical constraints, a convenience sampling technique was used to capture diverse organizational levels in Pakistan's healthcare sector. The targeted sample technique secured participation from a variety of jobs (e.g., physicians, nurses, administrators) to reflect the workforce's diversity. The quantitative data was collected systematically, from structured questionnaires, which can be used for the generation of large amounts of data. The questionnaire used the 5-Likert scale for rating the responses to the questionnaire items, with options ranging from 1 - strongly disagree, to 5 - strongly agree. A sample size of 384 was

determined using ([Krejcie & Morgan, 1970](#)) table, as the total employee population was unknown. The questionnaires were distributed in person, depending on the accessibility and preferences of the participants.

3.2 | Data Analysis Methods and Tools

The study hypotheses were tested using a method known as partial least squares structural equation modeling (PLS-SEM). This method was useful for approximating intricate links between them and the impacts of mediators and moderators. Moreover, the results obtained were also reliable without the need for a larger sample size when using PLS-SEM ([Wong, 2013](#)). Further, [Wong \(2013\)](#), pointed out that the measurement or outer model was assessed to check their validity and reliability. To establish the suitability of the used reflexive indicators, convergent and discriminant validity, composite reliability and Cronbach's alpha tests were conducted to validate the model. The factor loadings above the suggested threshold of 0.7, average variance extracted (AVE) > 0.5 , and composite reliability (CR) ≥ 0.7 which showed high reliability and validity. These results confirm the validate scales for this study. The factor loadings in this study were carefully examined to ensure the robustness of the measurement model, with all items exceeding the recommended threshold of 0.7, indicating strong associations with their respective constructs. Each item was selected based on its theoretical relevance and contribution to the overall model, ensuring that it accurately reflects the underlying construct.

3.3 | Instrument Design / Measurement Scale

The study was grounded on a review of the literature, and the questionnaire developed for the study included four constructs. It was divided into two sections: the first one gathered the study participants' background information and demographics such as age, gender, job title, education, and experience. The second section had items constructed to operationalize the study variables. The knowledge management process was designed using 12 items and collected from ([Lee, 2017](#)). The scale for employee motivation measuring 15 items was adopted from the works of ([Altindis, 2011](#)). Last but not least, the scale for measuring employee performance consisting of 13 items was developed ([Zaman et al., 2022](#)).

The scales adopted from studies such as [Lee \(2017\)](#) and [Altindis \(2011\)](#) were rigorously validated in the Pakistani healthcare context to ensure their reliability and validity. Internal consistency was assessed using Cronbach's alpha, a widely accepted measure for evaluating the reliability of a scale. A Cronbach's alpha value above 0.70 was achieved, indicating good reliability and consistency among the scale items. To establish discriminant validity, which ensures that items measuring different constructs are not highly correlated, the Fornell-Larcker Criterion was applied. This criterion confirms that the square root of the Average Variance Extracted (AVE) for each construct is greater than the correlations between that construct and all other constructs. Additionally, the scale's validity was further supported by factor loadings exceeding the recommended threshold of 0.7, indicating strong associations between the items and their respective constructs. The Average Variance Extracted (AVE) values were above 0.5, demonstrating that the constructs explain a significant portion of the variance in their items. Furthermore, Composite Reliability (CR) values were ≥ 0.7 , confirming the internal consistency and reliability of the constructs. These statistical measures collectively validate the adopted scales as robust and appropriate for use in the Pakistani healthcare context.

The hypotheses in this study were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) instead of Confirmatory Factor Analysis (CFA) due to several key reasons. CFA requires large sample

sizes and assumes multivariate normality, PLS-SEM is robust with smaller samples and non-normal data, making it ideal for the resource-constrained context of Pakistan's healthcare sector. Additionally, PLS-SEM effectively handles complex models with multiple mediators and both formative and reflective constructs, which are central to this study. Its focus on prediction and explanation, rather than theory confirmation, further justifies its use, as the study aims to develop new insights rather than validate existing theories. Thus, PLS-SEM's flexibility, practicality, and suitability for the research objectives make it the preferred choice over CFA.

4 | RESULTS and ANALYSIS

4.1 | Background Information of the Respondents

The demographic details of the respondents are shown in Table 1. In this study, Male respondents (79%) outnumbered females (21%). The largest age group was 15–25 years (43%), followed by 46–55 years (20%), 26–35 years (17%), 36–45 years (15%), and >55 years (4%). In relation to education level, 62% of the respondents are MBBS, 21% are MBBS with MPH, 14% have a Dispenser Diploma, and 3% have an LHV Diploma. Regarding the job titles, Doctors are the most populous group, 35%, followed by Medical Officers, 28%; Dispensers 14%, CEOs 1%; Medical Superintendents 3%, DDHOs 3%, LHVs 3%, and DHOs 0%. According to experience levels, 32% of the respondents have 1-5 years' experience, 22% have 6-10 years' experience, 20% have 11-15 years' experience, 14% have 16-20 years' experience and only 12% have more than 20 years' experience. The gender disparity reflects Pakistan's male-dominated healthcare workforce, notably in administrative and technical positions. In terms of age distribution, the strong participation of the age group is consistent with Pakistan's labor demographics, which shows that younger professionals are actively involved in knowledge-based occupations. However, attempts were made to involve experienced experts to minimize such biases.

Table 1

Demographic Information of the Respondents

Descriptor	Details	Frequency	Percentage
Gender	Male	303	79%
	Female	81	21%
Age	15 - 25	167	43%
	26 - 35	67	17%
	36 - 45	59	15%
	46 - 55	75	20%
	Above 55	16	4%
	MBBS	238	62%
Education	MBBS + MPH	79	21%
	LHV Diploma	13	3%
	Dispenser Diploma	54	14%
	Doctor	136	35%
Job Title	Medical Officer	107	28%
	Medical Superintendent	50	13%
	CEO	1	13%
	DHO	1	0%
	DDHO	11	3%
	LHV	11	3%

Experience	Dispenser	55	14%
	1 - 5 years	121	32%
	6 - 10 years	86	22%
	11 - 15 years	75	20%
	16 - 20 years	55	14%
	20 or above years	47	12%

4.2 | Measurement Model

In Partial Least Squares - Structural Equation Modeling (PLS-SEM), the measurement model is significant to test and validate the proposed model and the relationships among the hypotheses in the research model. This model also has the responsibility to validate and confirm the reliability of the instruments that measure the posited constructs. SEM is a model commonly applied in an endeavor to validate theories with empirical research ([Hair Jr et al., 2021](#)). The loading score >0.70 indicates acceptable reliability for empirical studies. From Table 2, one can observe item loadings vary between 0.675 and 0.963.

The detail of the loading of different constructs are shown in Table 2 which includes, Knowledge Creation (KC), Knowledge Storage (KS), Knowledge Translation (KT), Knowledge Application (KA), Employee Motivation (EM), and Employee Performance (EP). Loading scores for Knowledge Creation items, i.e., KC1 to KC3, are 0.922 to 0.962 while loading scores for Knowledge Storage items, i.e., KS1 to KS3, vary between 0.877 to 0.976. Knowledge Sharing Items (KT1 to KT3) have been determined to have loadings between 0.815 and 0.965. It has been found that KA1-KA3 Knowledge Application items have loadings ranging from 0.830 to 0.919. Employee Motivation contains the most items (EM1 – EM15) followed by HLM, ALM, and LOM the loadings of which vary from 0.775 to 0.947. Last, Employee Performance (EP1 to EP13) has loadings that range from 0.783 to 0.963. Results indicate that most items exceed the 0.70 threshold, though a few falls slightly below.

Table 2

Results of Outer-loading (Source: Analysis Result of SMART PLS 4)

Construct	Items	KC	KS	KT	KA	EM	EP
Knowledge Creation	KC1	0.962					
	KC2	0.922					
	KC3	0.952					
Knowledge Storage	KS1		0.877				
	KS2		0.976				
	KS3		0.972				
Knowledge Sharing	KT1			0.965			
	KT2			0.815			
	KT3			0.961			
Knowledge Application	KA1				0.919		
	KA2				0.830		
	KA3				0.889		
Employee Motivation	EM1					0.897	
	EM2					0.942	
	EM3					0.807	

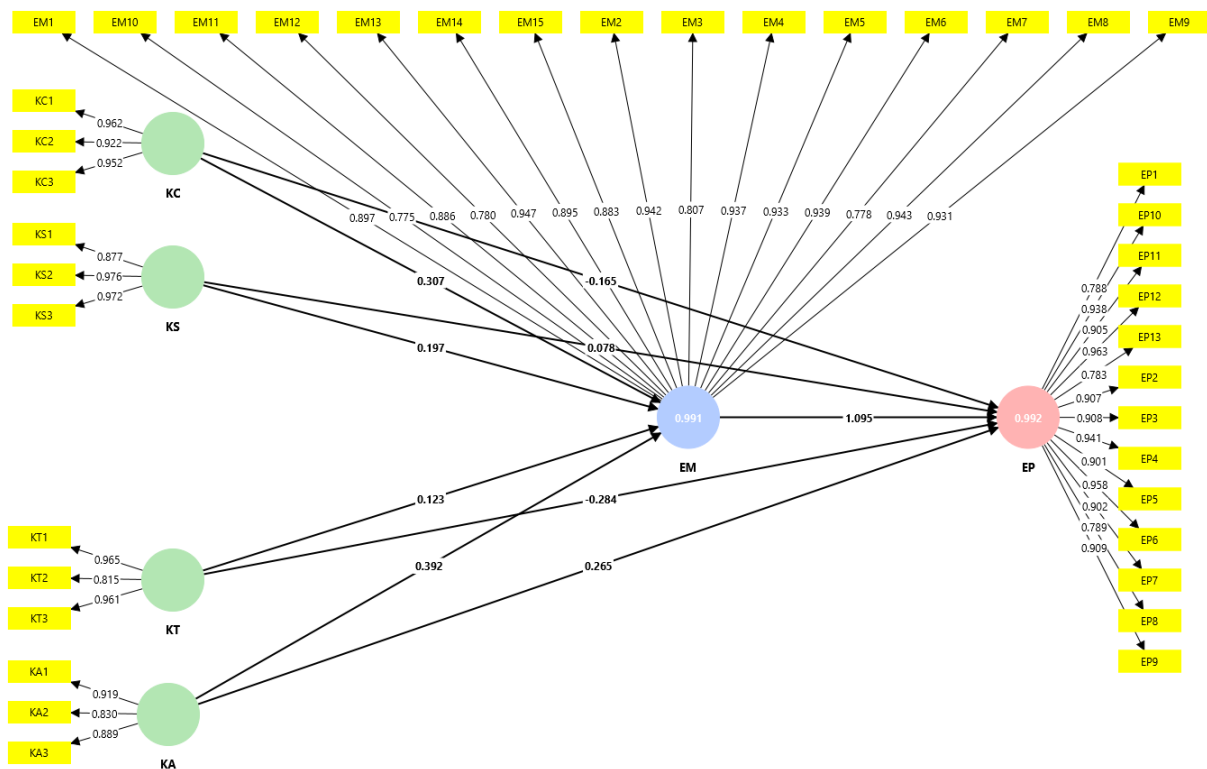
	EM4	0.937
	EM5	0.933
	EM6	0.939
	EM7	0.778
	EM8	0.943
	EM9	0.931
	EM10	0.775
	EM11	0.886
	EM12	0.780
	EM13	0.947
	EM14	0.895
	EM15	0.883
Employee Performance	EP1	0.788
	EP2	0.907
	EP3	0.908
	EP4	0.941
	EP5	0.901
	EP6	0.958
	EP7	0.902
	EP8	0.789
	EP9	0.909
	EP10	0.938
	EP11	0.905
	EP12	0.963
	EP13	0.783

Measurement consistency and reliability of the variables were established using Cronbach alpha and composite reliability coefficients. In this study, Cronbach's alpha is 0.829 and composite reliability is 0.874 both are greater than 0.7 suggesting construct reliability ([Sarstedt et al., 2016](#)). Cronbach alphas and composite reliability coefficients of all constructs are given in Table 3, which show that all indicators have high reliability above the established limit. In particular, the Construct of Employee Motivation (EM) had a Cronbach's alpha of 0.980, composite reliability (rho_c) of 0.982, and The AVE was 0.787. The measures for Employee Performance (EP) scale yielded a value of Cronbach's alpha of 0.979; the value for composite reliability was 0.981; while the value for AVE was 0.799. Knowledge Application (KA) had a Cronbach's alpha of 0.854, composite reliability of 0.911, and AVE of 0.775. In this study, the Knowledge Creation (KC) construct yielded a Cronbach's alpha of 0.940, the composite reliability where W1 and W2 were 0.962, and the AVE was 0.893. Likewise, Knowledge Storage (KS) was estimated to be 0.937 for Cronbach's alpha, 0.960 for composite reliability, and 0.889 for AVE. The construct of Knowledge Sharing (KT) yielded a Cronbach's alpha of 0.902, composite reliability of 0.940, and an AVE of 0.840. These values assure the high reliability of all the examined constructs in the study. Bootstrapping was carried out using 5,000 subsamples to determine the importance of the path coefficients and the model's predictive value. The findings revealed substantial correlations between the constructs.

Table 3*Reliability and Convergent Validity (Source: Analysis Result of SMART PLS 4)*

Construct	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
Employee Motivation (EM)	0.980	0.982	0.982	0.787
Employee Performance (EP)	0.979	0.980	0.981	0.799
Knowledge Application (KA)	0.854	0.861	0.911	0.775
Knowledge Creation (KC)	0.940	0.942	0.962	0.893
Knowledge Storage (KS)	0.937	0.947	0.960	0.889
Knowledge Sharing (KT)	0.902	0.915	0.940	0.840

Respectively, the Smart PLS 4.0 analysis has been displayed graphically as shown in the following Figure 2.

Figure 2.*Outer Loading of Constructs (Source: Analysis Result of SMART PLS 4)*

4.3 | Discriminant Validity

The Fornell-Larcker Criterion test was used in the research to test discriminant validity ([Fornell & Larcker, 1981](#)). The result for discriminant validity is presented in the following Table 4. As shown in Table 3, the square root of AVE is above all cross-loadings of the constructs under study. This was done by the criterion indicated in [Hair Jr et al. \(2021\)](#), to conduct an assessment of the discriminant validity of this study. Further, we checked the problem of multicollinearity for the severity by calculating the VIF. The VIF values

in this current research analysis are below 3 recommended VIF values (Hair Jr et al., 2021). Thus, we did not find a high level of multicollinearity problem in the current data set.

Table 4

Discriminant validity: Fornell–Larcker Criterion (Source: Analysis Result of SMART PLS 4)

Construct	EM	EP	KA	KC	KS	KT
Employee Motivation (EM)	0.887					
Employee Performance (EP)	0.992	0.894				
Knowledge Application (KA)	0.981	0.979	0.880			
Knowledge Creation (KC)	0.981	0.966	0.956	0.945		
Knowledge Storage (KS)	0.946	0.945	0.902	0.929	0.943	
Knowledge Sharing (KT)	0.967	0.943	0.961	0.945	0.898	0.916

4.4 | Structural Model

Table 5 displays hypothesis tests on the impact of several KM processes and employee motivation on performance. The path coefficients are represented by β and other post-estimation details including standard deviations, t-statistics, and p-values are also presented and hypotheses are accepted if and only if $p < 0.005$. When it comes to H_1 , the study found that there is a positive correlation between Knowledge Creation (KC) and Employee Performance (EP) which is equal to 0.171 with a probability value of 0.002. Likewise, the result of H_2 shows that Knowledge Store (KS) has a positive impact on EP where $\beta = 0.294$ $p = 0.000$. Nevertheless, H_3 posits that the Knowledge Sharing (KT) impact EP is not supported ($\beta = -0.150$, $p = 0.082$) since the 'p' value is slightly higher than 0.05. This counterintuitive result may stem from several contextual factors specific to Pakistan's healthcare sector. For instance, information overload from excessive or poorly managed knowledge sharing could overwhelm employees, reducing their ability to process and apply information effectively. Additionally, cultural and hierarchical barriers may hinder the practical application of shared knowledge, particularly if employees lack the motivation or resources to utilize it. Another potential explanation is the mismatch between shared knowledge and practical needs, where irrelevant or outdated information fails to address real-world challenges. These factors highlight the importance of contextualizing knowledge-sharing practices to align with employees' needs and organizational goals.

On the other hand, H_4 , which proposition that Knowledge Application (KA) has a positive impact on EP, is supported by a beta coefficient of 0.694 and a significance level of 0.000. Cultural and organizational impediments contribute to the association between Knowledge Sharing (KS) and Employee Performance (EP) being insignificant. Knowledge sharing in hierarchical healthcare settings may not directly convert into performance gains owing to trust concerns, a lack of incentives, or resistance to change. Moreover, For H_5 , results indicate that Employee Motivation (EM) mediates the relationship between Knowledge Creation (KC) and Employee Performance (EP). There is a positive and significant correlation observed in H_6 which states that KS has a positive effect on EP which is also mediated by Employee Motivation (EM). KT is also discovered to have no indirect relationship via direct or indirect (mediator variable). Finally, as for H_8 , it confirms that KA has a positive and considerable impact on (EP) via the mediating variable of EM. Finally,

the results suggest that argument, including knowledge creation, storage, and application, is of central importance for promoting both employee motivation and performance. Consequently, KT is not significant to EP and EM: conducting additional research on the nature of the relationship between KT and EP will be necessary.

Table 5

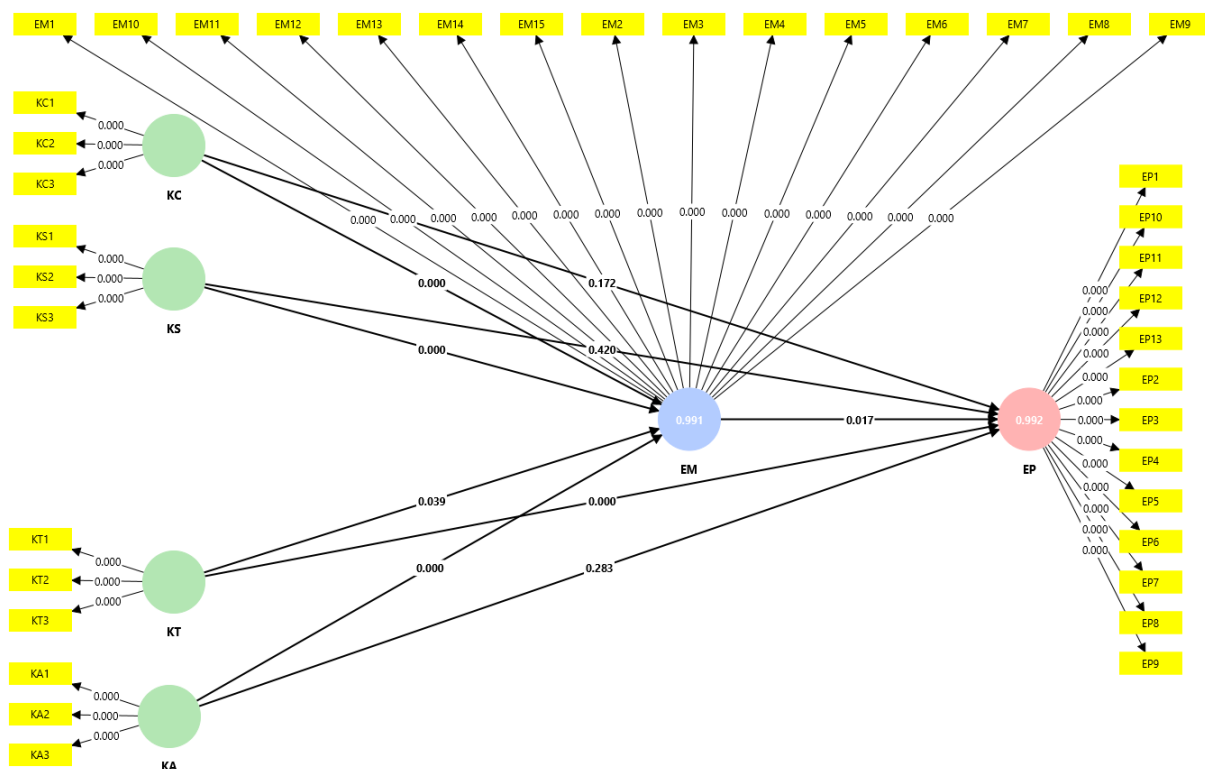
Hypotheses Testing (Source: Analysis Result of SMART PLS 4)

Hypotheses	Path	β	Standard Deviation	T Statistics	p Values	Decision
H ₁	KC -> EP	0.171	0.056	3.063	0.002	Accepted
H ₂	KS -> EP	0.294	0.038	7.671	0.000	Accepted
H ₃	KT -> EP	-0.150	0.086	1.738	0.082	Not Accepted
H ₄	KA -> EP	0.694	0.115	6.022	0.000	Accepted
H ₅	KC -> EM -> EP	0.336	0.154	2.188	0.029	Accepted
H ₆	KS -> EM -> EP	0.216	0.090	2.399	0.016	Accepted
H ₇	KT -> EM -> EP	0.134	0.087	1.541	0.123	Not Accepted
H ₈	KA -> EM -> EP	0.429	0.178	2.416	0.016	Accepted
H ₉	EM -> EP	1.095	0.460	2.379	0.017	Accepted

Respectively, the Smart PLS 4.0 analysis has been displayed graphically as shown in the following Figure 3.

Figure 3

Hypothesis Testing (Source: Analysis Result of SMART PLS 4)



6 | DISCUSSION

The purpose of this research was to understand the Knowledge Management (KM) process and the effect of independent factors in KM on employee performance in hospitals and healthcare organizations in Pakistan, with emphasis on the moderating role of employee motivation. Findings reveal that knowledge creation and employee motivation strongly positively correlate with performance, enhancing organizational efficiency. These results align with recent studies, such as ([Asiimwe & Barigayomwe, 2024](#)), who highlighted that employee motivation significantly boosts performance. Similarly, [Palacios Marqués and José Garrigós Simón \(2006\)](#), emphasized that motivated employees contribute to higher productivity. This study extends prior corporate/manufacturing-sector research by examining KM's impact in hierarchical healthcare settings. Importantly, the findings challenge the assumption that KM alone guarantees improved outcomes, revealing that motivation mediates this relationship. Furthermore, the study expands on [Asiimwe and Barigayomwe \(2024\)](#), by emphasizing how organizational structures and incentive systems influence knowledge-sharing practices, particularly in resource-constrained environments like Pakistan's healthcare sector. By highlighting the role of contextual factors, this study fills gaps in the literature and provides fresh insights into the boundary conditions of KM.

The study also revealed unexpected results, such as the negative impact of Knowledge Transfer (KT) on Employee Performance (EP), which warrants deeper exploration. This counterintuitive finding may reflect Pakistan's healthcare context—information overload, ineffective sharing mechanisms, or cultural barriers—where excessive knowledge transfer hampers performance. Additionally, cultural and hierarchical barriers may hinder the effective application of transferred knowledge, particularly if employees lack the motivation or resources to utilize it. Another possible explanation is the mismatch between transferred knowledge and practical needs, where irrelevant or outdated information fails to address real-world challenges. These findings highlight the importance of contextualizing KM practices and ensuring that knowledge transfer is aligned with employees' needs and organizational goals. Further research is needed to explore these dynamics and develop strategies to mitigate the negative effects of KT on EP.

The findings offer two key implications: practical and theoretical. Practically, the study recommends implementing collaborative measures, such as pro-employee policies, to enhance performance. For instance, flexible work schedules, performance-based rewards, and structured knowledge-sharing platforms can motivate employees and facilitate knowledge creation. Theoretically, the study contributes to Social Exchange Theory (SET) by demonstrating that employees who perceive organizational support are more likely to engage in KM practices, thereby enhancing performance. This aligns with SET's emphasis on reciprocity and mutual benefit, as employees who feel valued are more inclined to share knowledge, boosting organizational productivity.

In conclusion, this study underscores the importance of KM processes, particularly knowledge creation and application, in improving employee performance in Pakistan's healthcare sector. Employee motivation acts as a critical mediator, enhancing the impact of KM practices on performance. By fostering a culture of collaboration and reciprocity, healthcare organizations can improve productivity, responsiveness, and patient care quality. Recommendations—like incentivizing knowledge-sharing and digital tools—offer actionable

strategies for sectoral challenges. Ultimately, the synergy between KM practices and employee motivation can significantly contribute to the advancement of Pakistan's healthcare sector. Finally, it is also concluded that such synergy of knowledge management practices and employee motivation enhances the quality of patient care, organizational performance as well as growth of the healthcare sector as a whole, hence a positive impact on the advancement of the sector in Pakistan.

5 | CONCLUSION

The study concludes that KMPs (KC, KS, KA) significantly improve employee performance. Specifically, KC and KA demonstrate strong positive correlations with EP, as supported by statistical evidence (e.g., high factor loadings and significant p-values). However, the findings reveal no significant association between Knowledge Sharing (KS) and EP, which may be attributed to contextual factors such as organizational culture, resource constraints, or ineffective knowledge-sharing mechanisms. These results underscore the need to adapt KM practices to employees' needs and organizational goals. Employee motivation emerges as a significant mediator, enhancing the impact of KMPs on EP. Motivated employees are more likely to engage in knowledge creation and application, leading to improved performance and productivity. This underscores the need for organizations to implement pro-employee policies, such as performance-based rewards, flexible work schedules, and structured knowledge-sharing platforms, to foster a culture of collaboration and reciprocity. Additionally, investing in digital tools and leadership training can further support KM initiatives and enhance employee motivation.

5.1 | Limitations and Future Research Directions

This research on Knowledge Management Processes (KMP) enhancing Employee Performance (EP) through Motivation in Pakistan's healthcare sector has several limitations. The cross-sectional design limits causal conclusions, and Pakistan-specific data may reduce generalizability. Potential sampling biases and self-reported data risks, such as social desirability or recall bias, further constrain the findings. Despite this, the study challenges the assumption that knowledge transfer universally enhances performance, revealing a negative relationship in Pakistan's context due to factors like cultural barriers, resource constraints, and hierarchical structures. This calls for context-specific KM strategies in developing economies. The study's narrow focus on direct KM-performance links overlooks potential moderators like organizational culture, leadership, and resource availability. Future research should explore these factors and investigate the role of Artificial Intelligence (AI) in KM. Examining how AI-mediated knowledge sharing influences motivation and performance in digital workplaces could provide valuable insights for organizations undergoing digital transformation. Addressing these gaps can enhance understanding and inform more effective KM strategies.

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