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Impact of Knowledge Sharing on Employee Performance in Higher Education: Moderating Role of Employee Motivation and Employee Engagement

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Abstract

The objective is to assess the impact of knowledge sharing, employee motivation, and employee engagement on overall performance. The quantitative research method is used to collect primary data through an adoptive structured questionnaire based on a 5-Likert scale. The responses are recorded from 322 respondents through the method of sampling in many stages. Using SmartPLS software, recorded responses are examined using statistical tests (such as regression and correlation). The results indicate a positive relationship among knowledge sharing, employee engagement, motivation, and performance. All hypotheses (H1, H2, H3) were accepted with *t*-values exceeding 1.96. This study elaborates on how knowledge sharing along with the moderating effects of motivation and engagement, improves employee performance, particularly in the academic sector. It also adds to the existing literature on these relationships.

***Keywords*:** employee engagement, employee motivation, employee performance, knowledge sharing

Introduction

In a rapidly evolving economic landscape, knowledge serves as a crucial economic asset, offering enduring competitive advantages (Gupta et al., 2024; Koliby et al., 2024). The practice of knowledge sharing significantly enhances an employee's capacity to access new information, engage in learning, solve problems, and pursue self-improvement (Chen et al., 2024). It is essential for companies to focus on transferring the expertise and knowledge of seasoned professionals to newcomers who require it (Yang et al., 2022). Therefore, organizations must prioritize and actively utilize their existing knowledge-based resources more effectively.

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Understanding the corporate environment and working together with co-workers to improve employee performance for the benefit of the industry are characteristics of an engaged employee (Yunyi et al., 2023). Employee engagement has received a lot of attention lately, with recent studies demonstrating the crucial role it plays in various sectors, including education (Connolly et al., 1996). Employees who maintain a positive mindset and demonstrate job-related energy, determination, and deep focus tend to have a stronger cognitive presence at work, which in turn helps minimize errors (Lee & Jo, 2023). Highly productive employees tend to speak up, take initiative, anticipate issues, enhance work practices, and positively impact their colleagues (Kwarteng et al., 2024). Employee engagement, which posits that effective adaptation to new roles and situations improves performance, is another crucial factor (Liao et al., 2024).

The primary goal of this study is to examine the impact of knowledge sharing on a worker's overall performance, with motivation and engagement serving as moderating factors. While active participation and the dissemination of information are known to positively influence employee performance, such practices are not as prevalent in higher education as they should be (Ilyasa et al., 2018). Although knowledge sharing is widely acknowledged as vital for improving performance, there remains a notable research gap regarding how motivation and engagement moderate the relationship between knowledge sharing and performance outcomes. In particular, limited studies have examined these dynamics within the context of Pakistan's higher education sector (Jamshed et al., 2021).

Industrial Context

Higher education is crucial for a nation's economic progress and development. By aligning national development strategies with the objectives of academic institutions, sustainable growth can be effectively supported in the long term (Zubair, 2013). In 1947, Pakistan had 2 renowned universities and 42 colleges (Niazi & Mace, 2006). According to Barber (2010), Pakistan has a long history of "failed" reforms and a lack of government engagement. The insufficient funding is the primary cause of failures, notably in the education sector (Javaid & Jahangir, 2020).

Hence, Pakistan's educational landscape is marked by inadequate funding, poor program management, insufficient monitoring, ineffective

supervision, and substandard instruction. Compared to other countries with similar resources and socioeconomic conditions, Pakistan has one of the lowest literacy rates, globally. The adult literacy rate in Pakistan is 59.13% as of 2020, while it is 94% in Vietnam and 74% in India (World Health Organization, 2021). The quality of primary and secondary education in Pakistan is decreasing. Science education is at an all-time low, therefore immediate improvements are required. There was an acute deficit of teachers during and after independence, research labs were substandard and ill-equipped, and the programs had no relevance to the current demands (Javed et al., 2016).

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2018), Pakistan's education budget ranged from 2.14 to 2.76 percent of GDP during 2008 to 2017. The current educational system in Pakistan is a holdover from British colonial authority. To promote their political objectives, the British developed two streams of education, namely vernacular and English mediums. Despite Pakistan's independence, the highest-status schools for the privileged elite followed the English-medium education system. The national language Urdu is taught as a foreign language at these institutions; however, English is used throughout the curriculum (Shamim, 2011). Education plays a crucial role in the development of society. It is recognized as one of the civilization's most significant pillars. Education is the cornerstone of global development, as it is widely acknowledged that only nations with strong educational systems can make advancements and grow across various sectors (Ball, 1990).

Education enables individuals to grow and develop, broadening their awareness of global issues and everyday life. It fosters creativity and fills intellectual gaps, leading to progress in countries with strong educational institutions. Pakistan has struggled with national development and achievement since independence, primarily due to a deficient educational system. Various factors, including regional feudalism, political corruption, authoritarian regimes, weak civil society, and fragile democracy, have hindered improvements in primary education. The country's fundamental education program has been neglected and instead of leveraging high-quality free education for national advancement, the system has been dominated by so-called ‘democracy and development monsters’ (Zafar et al., 2003).

Literature Review

Knowledge Sharing

The rapid changes in information dissemination during the 20th century were driven by the advent of radio broadcasting at the century's beginning and the emergence of the internet in the 1980s. Consultants were among the first professionals to review and carefully analyze the best ways to convey knowledge. Other organizations relied on important individuals to manage and exchange knowledge through one-on-one interactions, while some corporations employed computers to codify and store information in databases.

Knowledge sharing has been heavily debated in the last 20 years from the perspective of higher education. Knowledge is now recognized as a key factor of production, alongside land, labor, and capital (Harris & Menzel, 2023). It is one of the inherent endowments that each ordinary human being receives. Everyone has some level of competence in different fields, yet many academics agree that exchanging information is a natural activity in academic organizations (Chen et al., 2024). In other words, higher education institutions will cease to exist if they do not fulfil their responsibility. According to Patil et al. (2024), institutions act as a reservoir for knowledge sharing.

Historically, higher education institutions have played a pivotal role in the evolution of knowledge management. Earlier, universities were primarily the places of knowledge preservation and dissemination. Over time, they evolved into dynamic environments where knowledge sharing became integral to academic and administrative functions (Naqvi et al., 2023). The emergence of technology in the late twentieth century significantly advanced this shift, enabling institutions to implement sophisticated knowledge management systems that improved information flow and collaboration among scholars and staff (Suhaimee et al., 2006). Suhaimee et al. (2006) observed that knowledge sharing in higher education institutions was typically limited. Although some faculty members adopted a positive work culture and willingly shared knowledge, others were hesitant to engage in this practice.

Employee and organizational performance were significantly impacted by knowledge sharing behavior. Currently, as each firm competes with the others to keep a competitive advantage in the market, each introduces a

separate knowledge management department where employees strive to acquire fresh and original knowledge using databases. It implies that employees will have access to expertise within the company whenever they need it. Since information is a valuable resource for an organization, it is the duty of each employee to contribute to the organization by sharing their significant skills with the aid of an effective knowledge management system.

H1: The higher the level of knowledge sharing, the higher the level of employee's performance.

Employee Performance

A systematic approach to developing plans in order to achieve a company's predetermined goals through routinely evaluating staff performance is called employee performance management. There are definite benefits to a performance management system, which organizations have also realized. Performance management, according to some accounts, was first employed when WD Scott adopted the concept of performance evaluation during WWI (McAninch, 2023).

Empirical studies substantiate the pivotal role of employee performance in the overarching success of an organization, necessitating a comprehensive examination of the constituent factors that contribute to exemplary performance (Oh et al., 2023). A highly engaged employee, familiarized with their work environment, actively collaborates with colleagues to elevate performance standards for the collective benefit of the enterprise (Patil et al., 2024).

Historically, performance management in higher education institutions has evolved from rudimentary evaluation methods to more structured and strategic systems. Early performance management focused primarily on teaching and research outputs, but contemporary approaches now encompass broader criteria, including administrative effectiveness and student engagement. Modern systems integrate technology to enhance evaluation processes and provide feedback that supports both faculty development and institutional goals (Neck et al., 2023).

Employee performance will benefit from information exchange among employees within a company and from efforts made by that organization to motivate employees in various ways (Neck et al., 2023). Employee motivation enhances the likelihood that they will work hard and go above

and beyond for what is required of them, which improves performance overall and raises productivity within the company (Li & Chen, 2023). Therefore, performance is significantly impacted by an employee's level of dedication to their employer and its philosophies (Davis, 2024).

Employee Motivation

One of the first theorists to try to comprehend employee motivation was Frederick Winslow Taylor. Across all corporate sectors, inspiring employees is a practice that is becoming more and more common. The term "motivation" originates from the Latin word ‘movere’ meaning ‘to move’ and it is what shifts employees' focus from lethargy to engagement (Neck et al., 2023).

There are two different types of motivation, namely intrinsic and extrinsic (Faridullah & Srivastava, 2024). Intrinsic motivation arises from a direct connection between the doer and the activity and is described as ‘a favorably valued experience that a worker directly gains from their job duties’ (Parent-Rocheleau et al., 2024). Employees are motivated by the inherent enjoyment of performing the tasks themselves or the challenge of successfully completing them (Parent-Rocheleau et al., 2024). Extrinsic motivation is associated with "tangible" incentives and often comes from external sources, such as salaries, bonuses, promotions, or recognition (Oh et al., 2023). Externally motivated employees are incentivized to perform effectively through rewards or avoidance of negative outcomes (Patil et al., 2024).

In higher education institutions, motivation plays a crucial role in both faculty and student performances. Academic institutions have been employing various motivational strategies to enhance teaching effectiveness and student engagement. Initially, incentives were largely confined to academic recognition and promotion opportunities. Over time, these strategies expanded to include more diverse forms of motivation, such as research grants, professional development opportunities, and improved work conditions (Demir, 2023).

Employee motivation is defined as the level of enthusiasm, commitment, and creativity that employees bring to the workplace. It is a force that drives individuals to act in ways that will result in advancement of specific goals (Demir, 2023). Highly motivated employees produce better work, engage more with the company, and complete tasks more

efficiently (Sathyanarayana & Harsha, 2024). Employee performance refers to the financial or non-financial outcomes directly linked to an individual's performance and the success of the organization. Increasing financial rewards can enhance employee performance due to the positive relationship between financial incentives and employee engagement (Nguyen et al., 2023). Employees want fair compensation as money remains a primary motivator affecting perceived value (Davis, 2024). Financial incentives have been shown to retain employees and boost performance, although their effectiveness might diminish over time (Faridullah & Srivastava, 2024).

H2: Employee motivation strengthens the positive impact of knowledge sharing on employee performance.

Employee Engagement

The idea of employee engagement was notably introduced by William A. Kahn in "Psychological Conditions of Personal Engagement and Disengagement at Work" (Kahn, 1990). Various successful internet businesses that offer employee survey platforms still operate on this foundational concept, which has its roots in instructional control theory.

A study by Faridullah and Srivastava (2024) provides a range of employee engagement definitions compiled from recent research findings. An early work in engagement literature suggested that the concept of engagement is grounded in role theory, which involves "spontaneous involvement in the role" and "a visible investment of attention and physical effort" (Köroğlu, 2018). The significance of employees feeling inspired by their jobs and employers was emphasized, recognizing the link between engagement and organizational effectiveness, even though the term "employee engagement" was not directly used.

Employee engagement in higher education has evolved alongside changes in educational practices and institutional priorities. Initially, engagement efforts were focused on improving teaching methods and research outputs. As the higher education sector has increasingly emphasized student experience and satisfaction, engagement strategies have expanded to include comprehensive programs designed to foster both faculty and student involvement in academic and extracurricular activities (Orrensalo et al., 2024).

Employee engagement is also explained through the concept of flow, characterized by employees being fully immersed in their work. Kahn

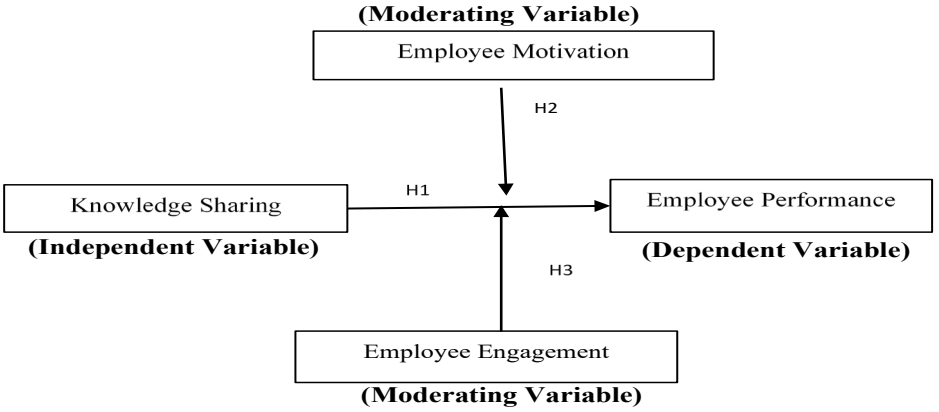
defined personal work engagement as the harnessing of organization members' identities to their work roles; through engagement, people employ and express themselves physically, cognitively, and emotionally throughout role performances (Kahn, 1990).

"Employee engagement" is defined as the ability to capture employees' minds, emotions, and souls to build a profound drive and passion for excellence (Fleming et al., 2024). They argue that motivated staff members are invested in the success of their business due to an emotional, social, and even spiritual connection to its objectives. Employee engagement and performance are positively correlated because motivated employees exhibit enhanced cognitive processes and mental abilities, making them more focused and involved in their work (Lenart-Gansiniec et al., 2023). The term "work engagement" refers to "the harnessing of organizational members' self to their work obligations" with employees fully engaging physically, cognitively, and emotionally during their roles (Orrensalo et al., 2024).

H3: Employee engagement strengthens the positive impact of knowledge sharing on employee performance.

Figure 1

Research Model



Methodology

Research Design

Quantitative research technique is used to examine the impact of employee performance in the organizations. Quantitative studies are a form

of research grounded in natural science methodologies, providing robust data and generating numerical results. In quantitative research, several computational and mathematical methods are used to establish cause and effect relationship between the variables (Nwabuko, 2024).

Research Type

This study employs a cross-sectional research design, focusing on gathering data from a single group at a specific point in time. It has been identified that cross-sectional study is the best option when examining the prevalence of an outcome at a specific time (Bocoya-Maline et al., 2024).

Explanatory study is applied to the current study with the aim to explain the reasons for the phenomenon and to assess the occurrence of findings (Park, 2024).

Research Strategy

Survey methods are a crucial element in conducting a study (Govindan et al., 2024). In this study, the respondents are provided with a structured questionnaire designed to obtain specific information that will include elements of variables and demographics, such as gender, qualification, and years of job experience, in terms of the current job. Questionnaires comprise a variety of questions asked from the respondents regarding their motivations, engagement, knowledge sharing demographics, and other related factors. A Likert scale is used, through which respondents specify their level of agreement to a statement typically in five points (1) *Strongly Disagree*, (2) *Disagree*, (3) *Neutral*, (4) *Agree*, and (5) *Strongly Agree.*

Research Approach

A deductive approach is used in this study, which mainly focuses on connecting people with science. The existing theories are analyzed for examining the current phenomenon, investigating what others have done, and then testing hypotheses that result from those theories (Kumar & Ujire, 2024).

Research Philosophy

Saunders (2015) proposed 4 types of research philosophies (Pragmatism, Positivism, Realism, Interpretivism). This study uses the philosophy of "positivism", which believes that only knowledge obtained by observation, including measurement, can be trusted. The basis of

"positivism" is quantitative observations that result in statistical analyses (Arifin & Rini, 2024).

Population and Sampling

Population

The targeted population of the current research includes faculty members of the private universities located in Islamabad (Air University, Bahria University, Comsats University, NUML University, and NUST University).

Sampling

For data collection, a sample that will represent the total population is taken into consideration. To determine the accuracy of the population, various tools, such as the sample size calculator, Morgan table, and others are utilized.

Table 1

Number of Faculty Members Employed

Universities	Number of Faculty Members Employed
Comsats University, Islamabad	1117
Air University, Islamabad	93
Numl University, Islamabad	132
Nust University, Islamabad	461
Bahria University, Islamabad	134
Total	1,937

According to Morgan Sample Size Calculator, the sample finalized for data collection from the above given population is 322. After analyzing the responses, the relationship between the variables was assessed.

Sampling Technique

Multistage sampling technique has been applied in this research to analyze the gathered data. Multistage sampling technique is a kind of non-random sampling technique in which researchers draw a sample from a population using smaller and smaller groups (units) at each stage. It is frequently employed in national surveys to gather data from a large, geographically diverse population (Kuno, 1976).

Multistage sampling technique consists of two stages. At the first stage, different strata are made. Since this study focuses on the five universities located in Islamabad, five strata are developed. With the help of a questionnaire, data is collected from each stratum. Second stage is proportionate sampling, which means that according to each strata's population, data is collected accordingly. The total number of population is 1,937 (Table 1). Dividing the number of employed faculty members by the total population will give the number of how much data is to be collected by each university. The following table will show the exact percentage of data collected from each stratum according to their proportion.

Table 2

Exact Percentage of Data Collected

Universities	Data Collected (%)
Comsats University, Islamabad	57.7%
Nust University, Islamabad	23.7%
Bahria University, Islamabad	7%
Numl University, Islamabad	6.8%
Air University, Islamabad	4.8%

Research Instruments

The survey instrument consists of two main sections. The first section gathers demographic information, such as gender, education level, work experience, and other relevant personal and professional characteristics. This section is crucial for understanding the participants' backgrounds and for analyzing how these variables may relate to the study's outcomes.

The second section addresses the key variables of the research, focusing on knowledge sharing, employee motivation, employee engagement, and employee performance. Each of these variables is measured through carefully chosen questions that are based on prior research and validated survey instruments. By employing these established tools, this section ensures the accuracy and consistency of measuring the impact of knowledge sharing and related factors on organizational performance. Together, these sections provide a thorough framework for examining how demographic factors, knowledge exchange, motivation, and engagement influence employee performance.

The scale of the investigation was chosen based on previously published studies and written literature. The Statistical Package for the Social Sciences (SPSS) and Partial Least Square Structural Equation Modelling (PLS-SEM) were used to examine the descriptive data using SmartPLS software. The following Table 3 shows the variables of the study.

Table 3

Distribution of Instrument Variables

S. No.	Variables	Items	Sources
1.	Knowledge Sharing	3	(Sigamony, 2019)
2.	Employee Performance	7	(Javed et al., 2018)
3.	Employee Motivation	6	(Shahzadi et al., 2014)
4.	Employee Engagement	7	(Abidi et al., 2020)

Results

Data Analysis

Regression and correlation analysis is done to evaluate the relation among variables. There are two models of SmartPLS, namely the structural model and measurement model. The measurement model includes analysis of internal consistency, Cronbach's alpha, indicator reliability (loadings), convergent validity (AVE), and discriminant validity. The structural model focuses on collinearity assessment, significance of path coefficients, coefficient of determination (R^2), and F^2 effect size.

PLS-SEM Approach

PLS-SEM effectively explains the complex relationships between multiple variables and specialized software is used to perform PLS-SEM analysis. The two-degree process of SEM is illustrated below in Figure 2.

Measurement Model

The measurement model outlines how latent constructs are assessed using observable variables, allowing for an examination of the measurement properties of these constructs. A model is built with SmartPLS software and then the PLS algorithm is used (300 maximum iterations, path weighting scheme). SmartPLS is used to assess the validity and reliability of the items.

Figure 2

PLS-SEM Evaluation

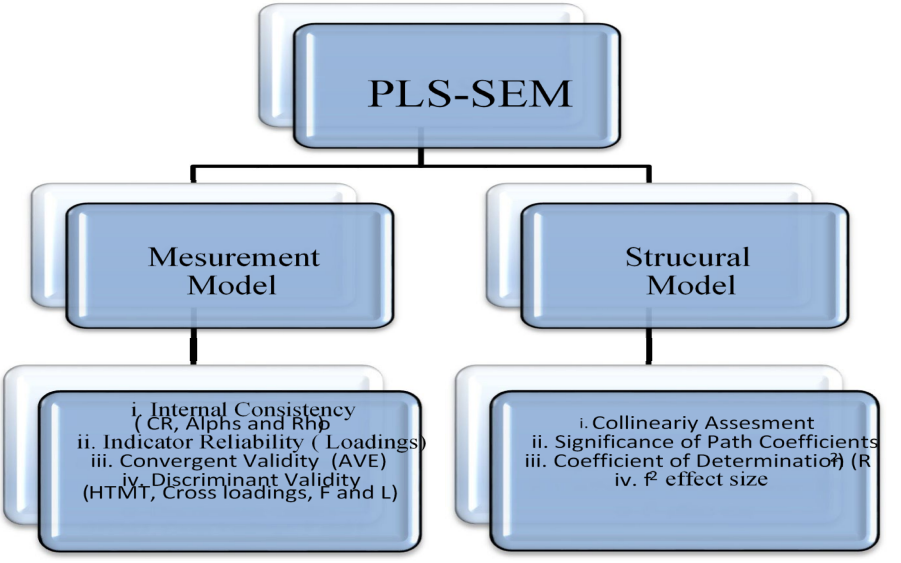
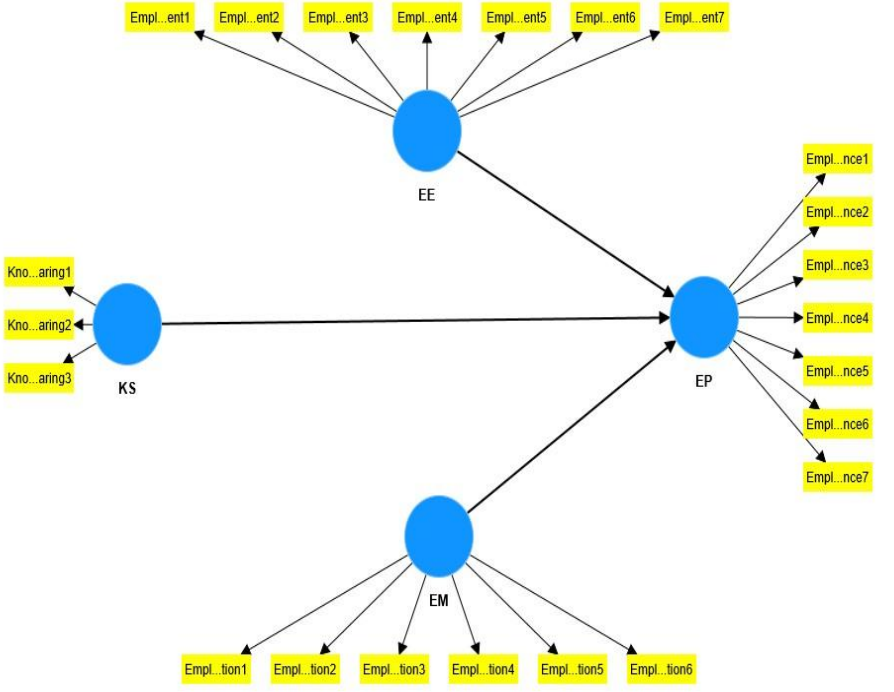


Figure 3

Structural Model



The above diagram outlines the relationships between four variables and their effects on each other. It shows that Knowledge Sharing (KS), which is the independent variable with three components, impacts Employee Performance (EP), the dependent variable with seven components. Additionally, the diagram indicates that Employee Motivation (EM) and Employee Engagement (EE) serve as moderators in this relationship. Employee motivation with six components and employee engagement with seven components, both influence employee performance. Figure 3 effectively demonstrates how knowledge sharing affects employee performance directly, while employee motivation and employee engagement moderate this effect.

Convergent Validity

Using the Cronbach's alpha, roh A, Composite Reliability (CR), and Average Variance Extracted (AVE), convergent validity is visible. The table below illustrates the convergent validity of the current study.

Table 4

Convergent Validity

Variables	Cronbach's alpha(α)	rho_A (ρ_A)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Employee Engagement	0.858	0.867	0.893	0.548
Employee Motivation	0.931	0.937	0.946	0.745
Employee Performance	0.863	0.870	0.895	0.553
Knowledge Sharing	0.734	0.727	0.85	0.656

According to the results of the above Table 4, all the relevant variables meet the internal consistency reliability standards of 0.7 or higher for CR, Cronbach's alpha, and roh A. AVE ought to be higher than 0.5. The table demonstrates that the convergent validity values fall within a range of acceptable internal consistency and convergent validity.

Discriminant Validity

The 1/3 criterion, known as Heterotrait-Monotrait ratio (HTMT), is diagnosed as reliable for discriminant validity. HTMT is described as the geometric advice of the not unusual correlations of the symptoms measuring the equal gather, divided through the sum of all correlations of the indicators measuring various structures (Henseler, 2017). Less than 0.90 have to be the outcome of this take a look at, indicating that the variables are distinct.

Table 5
Discriminant Validity with Heterotrait-Monotrait Ratio (HTMT)

Variables	EE	EM	EP	KS
Employee Engagement	0.796			0.629
Employee Motivation	0.744			
Employee Performance	0.843	0.673		
Knowledge Sharing	0.735	0.598	0.819	

All the HTMT values generated by SmartPLS for this investigation were below 0.90, demonstrating that the model is satisfactory. These values are mentioned in the above Table 5.

Structural Model

The structural model was assessed using four criteria, along with an evaluation of collinearity, a direction coefficient (Beta) that measures the energy of the association between variables, an evaluation of the regression rating (R^2), and an evaluation of the impact length of the f-square (F^2).

Explanatory Power of the Model

The *R*-square values (ranging from 0 to 1) demonstrate the model's capacity for explanation. Higher prediction accuracy is demonstrated by values near to one and vice versa. The following Table 6 shows the result.

Table 6
Dependent Variable and Related R-Square

No.	Dependent Variable	R^2
1	Employee Performance	0.646

Effect Size F^2

A F^2 value of 0.027 suggests a modest influence, a F^2 value of 0.121 shows a medium effect, and a F^2 value of 0.188 indicates a medium effect. The results of the model are shown below in Table 7.

Table 7
Effect Size of F-Square

Construct	Employee Performance
Employee Engagement	0.027 (small effect)
Employee Motivation	0.121 (medium effect)
Knowledge Sharing	0.188 (medium effect)

Hypothesis Testing

The current study's results are strongly positive and significant and practitioners as well as scholars may find them beneficial. This study showed that employees' performance can be improved when they exchange knowledge among themselves as it (EP) is positively impacted by knowledge sharing. This result implies that knowledge sharing is the most crucial element in an employee's life since it might result in better performance. The correlation among worker engagement and performance demonstrates that once employees are certainly engaged inside the agency, their performance improves. Ultimately, performance is positively impacted by employee motivation, demonstrating that highly motivated employees will put in a lot of effort and eventually performance will rise.

Path Coefficient (β) and t -values

By using the bootstrapping method, the model's path coefficients, *t*-value, and *p*-values were measured. Around 1000 samples are regarded as the minimal size for bootstrapping (Hair et al., 2017). Model's path coefficients, *t*-values, and *p*-values were computed using SmartPLS' bootstrap function on 5000 samples. The table below contains a list of the model's values. However, the outcomes demonstrate a considerable and favourable impact.

Table 8

Results of Structural Model and Hypothesis Testing

	Hypothesis	β	*t-value*	*p*	Decision
H1	EE ⟶ EP	0.450	6.996	0.000	Supported
H2	EM ⟶ EP	0.153	1.990	0.024	Supported
H3	KS ⟶ EP	0.325	7.837	0.000	Supported

As depicted in the table above, employee engagement, employee motivation, employee performance, and knowledge sharing, all have *t*-values higher than 1.96. Therefore, H1, H2, and H3 are accepted.

Evaluation of Moderator

Collinearity Assessment

Every impartial variable in PLS-SEM analysis is subjected to Ordinary Least Square (OLS) regression. It's vital to evaluate collinearity among variables in order to eliminate biased estimations. To determine the

presence of multicollinearity, the Variance Inflation Factor (VIF) is generated in SmartPLS. Values greater than 3.3 demonstrated strong collinearity. Hence, the values of the Measurement model are much below the cut-off and the variables do not exhibit any collinearity.

Table 9
Collinearity Assessments

Variables	Employee Performance
Employee Engagement	2.122
Employee Motivation	1.847
Knowledge Sharing	1.589

Discussion

This study applied Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the relationship among employee engagement, motivation, knowledge sharing, and performance using SmartPLS software. The measurement model demonstrated strong convergent validity with high reliability, as evidenced by Cronbach's alpha, rho A, and Composite Reliability (CR) values for all the variables exceeding 0.7. Additionally, the Average Variance Extracted (AVE) values surpassed the acceptable threshold of 0.5, confirming that the constructs explained a significant portion of variance in their indicators. Discriminant validity was established through the Heterotrait-Monotrait Ratio (HTMT) with all values below the 0.90 threshold, ensuring distinct constructs and supporting the credibility of the findings (Henseler, 2017).

The results of the structural model highlighted the substantial impact of knowledge sharing on employee performance with a significant path coefficient of 0.325 and a *t*-value of 7.837. This underscores the importance of fostering an environment that encourages knowledge sharing as it directly enhances the performance (Hair et al., 2017). Employee engagement also had a significant positive effect on performance (β = 0.450, *t*-value = 6.996), reinforcing the notion that engaged employees are more productive and effective. Although employee motivation positively influenced performance (β = 0.153, *t*-value = 1.990), its impact was smaller compared to knowledge sharing and engagement.

The R-squared value of 0.646 indicated that approximately 65% of the variance in employee performance was explained, demonstrating good

explanatory power. Effect sizes (f^2) revealed medium effects for knowledge sharing and engagement, while motivation had a small effect, suggesting that knowledge sharing, and engagement are more significant contributors to performance. However, collinearity diagnostics confirmed no issues with all Variance Inflation Factor (VIF) values well below the threshold of 3.3.

In general, the study's findings emphasized the critical role of knowledge sharing and employee engagement in driving performance. Knowledge sharing emerged as a key predictor of performance, suggesting that organizations should focus on creating a culture that supports information exchange among employees (Harris & Menzel, 2023). Engaged employees also demonstrated higher performance levels, highlighting the value of a supportive and motivating work environment (Patil et al., 2024). While motivation is important, its impact on performance is smaller compared to knowledge sharing and engagement (Sathyanarayana & Harsha, 2024). These insights provide valuable implications for both practitioners and scholars aiming to enhance employee performance through strategic management of engagement, motivation, and knowledge sharing practices.

Conclusion

The study highlights the crucial impact of knowledge sharing and employee engagement on improving employee performance in higher education institutions in Pakistan. The analysis demonstrated robust relationships among the studied variables, confirming the validity and reliability of the constructs. Knowledge sharing emerged as a key driver, emphasizing the necessity for universities to foster environments that encourage the free exchange of information. Engaged employees, characterized by higher levels of motivation and active participation in their work, were found to be more productive and effective. Although motivation also positively influenced performance, its impact was smaller compared to the other factors. The findings indicate that approximately 65% of the variance in employee performance can be explained by these factors, highlighting the importance of strategic management in these areas.

In this study that focused on faculty working in education sector in Islamabad, structured questionnaire is used to collect data and examine the impact of knowledge sharing, engagement, and motivation on employee performance. The outcomes imply that knowledge sharing is crucial for

advanced performance and the correlation among employee engagement and overall performance demonstrates that engaged employees perform better. Organizations want to offer faculty participants the liberty to create a supportive work environment. Employee involvement must be ingrained in the business culture and should be an ongoing process of development, action, and education. The study found a significant relationship between employee performance and information sharing, highlighting knowledge sharing as an important indicator of employee success. Despite its geographic and sector limitations, the study offers valuable insights for enhancing employee performance through targeted engagement and knowledge-sharing practices.

Implications

For research students, this study proves to be very useful since it will broaden their understanding of the relationship between information sharing and employee performance in Pakistan. Moreover, the results of the study will aid the administration of higher education institutions and managers aiming to boost employee engagement will benefit from enhanced organizational performance in improving the faculty members' information exchange within the university. Management can identify strategies that can increase employees' involvement in accomplishing the goals and objectives of the company. The findings also shed light on how staff engagement and motivation levels may impact Pakistan's higher education institutions' performance. Therefore, management needs to implement proper policies, procedures, mechanisms, and structures that can raise employee engagement, which will help the university achieve its objectives and goals.

Limitations

The current study is limited only to the education sector and a specific geographic location along with a specific group of population. The inability to conduct face-to-face communication with respondents due to time constraints led to the use of Google documents and virtual mediums for data collection with only a few questionnaires distributed through physical interaction. These limitations suggest that findings might have been different if data was gathered from other locations or sectors.

Recommendations

To enhance the study's efficacy and dependability, future research should consider a broader geographic scope and a larger sample size.

Extending the time frame for data collection would allow for more thorough and diverse data gathering, including respondents from different racial and cultural backgrounds. Comparing the public and private education sectors would provide a deeper understanding of the relationships studied. Future studies should also incorporate additional variables, such as worker dedication and job satisfaction. Using a 7-point Likert scale instead of a 5-point scale could offer more precise measurements. Universities should implement structured knowledge-sharing platforms and encourage regular interactions among faculty members to facilitate the flow of information and expertise. Institutions should focus on creating a supportive and motivating work environment to enhance employee engagement. This can be achieved through regular feedback, recognition programs, and opportunities for professional development. Although motivation plays a role in enhancing performance, it is crucial to prioritize knowledge sharing and engagement. Implementing motivational strategies, such as incentives and career advancement opportunities, can complement these efforts.

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

The data associated with this study will be provided by the corresponding author upon request.

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