

Knowledge Sharing as the Mediating Role between Work Engagement and Organizational Performance in Higher Education

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ABSTRACT

The dominant narrative in work engagement research draws a direct line from engaged employees to better organizational outcomes. This study complicates and enriches that narrative by testing knowledge sharing as the mechanism through which work engagement is associated with organizational performance, situated within a conceptual digital knowledge ecosystem framing. Using PLS-SEM (SmartPLS 4.0) with cross-sectional survey data from 208 academic staff at Universitas Muhammadiyah Tangerang (UMT), all four hypothesized relationships were supported at $p < 0.001$. Work engagement was positively associated with knowledge sharing ($\beta = 0.581$) and directly with perceived organizational performance ($\beta = 0.318$). Knowledge sharing was positively associated with perceived organizational performance ($\beta = 0.412$). Knowledge sharing partially mediated the work engagement–organizational performance relationship (indirect $\beta = 0.239$; VAF = 42.9%), consistent with a statistically significant partial mediation pathway rather than a demonstrated causal mechanism. The model explained 33.8% of the variance in knowledge sharing and 69.4% of the variance in organizational performance, reported in full in the structural model assessment (Table 3). Digital infrastructure is discussed as a contextual condition that may shape this pathway, but no digital-platform variable was measured or tested in the present model, and this remains a direction for future research. These findings offer preliminary, correlational evidence to inform HR practitioners and institutional leaders considering how knowledge-sharing facilitation might complement engagement-focused interventions.

Keywords: digital knowledge ecosystem; higher education; knowledge sharing; organizational performance; work engagement

1. Introduction

In the rapidly digitizing landscape of Indonesian higher education, institutional leaders face a practical question: does employee engagement reliably translate into organizational performance, and through what mechanism? The conventional view draws a direct line from engaged employees to better outcomes. However, this relationship may be more precisely understood by examining the mechanisms through which engaged employees contribute to institutional outcomes. In knowledge-intensive organizations such as universities, one particularly important mechanism is the active sharing of knowledge among colleagues, which may also be shaped by the digital infrastructure within which such exchanges occur. Recent developments in higher education further reinforce the importance of this issue, as digital transformation increasingly affects teaching, research, institutional governance, knowledge management, and employee collaboration (Hizam et al., 2023; Kumar et al., 2024; Abdellah et al., 2025).

Work engagement refers to a positive and fulfilling work-related state characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). Vigor reflects high levels of energy and mental resilience, dedication represents strong involvement, enthusiasm, and pride in one's work, while absorption describes full concentration and immersion in work activities. These dimensions are captured in the short-form Utrecht Work Engagement Scale (UWES-9) developed by Schaufeli et al.

(2006). Recent meta-analytic evidence continues to demonstrate that work engagement is positively associated with both task and contextual performance, indicating that engaged employees are more likely to invest sustained effort in activities that contribute to organizational effectiveness (Corbeanu & Iliescu, 2023). Evidence from higher education similarly suggests that stronger job engagement among academic staff contributes to improved job performance (Ahamed et al., 2023).

Nevertheless, engagement does not necessarily improve organizational performance solely through employees performing their own tasks more effectively. In knowledge-intensive environments, engaged employees may also contribute by actively exchanging expertise, experiences, information, and solutions with colleagues. Recent evidence indicates that work engagement can function as an important antecedent of knowledge-sharing behavior and that knowledge sharing can transmit some of the benefits associated with engagement to broader organizational outcomes (Singh, 2022). This relationship is particularly relevant to universities because knowledge creation, dissemination, and exchange constitute core functions of higher education institutions.

Social Exchange Theory provides one explanation for this relationship. According to Blau (1964), individuals who perceive positive exchanges with their organizations tend to reciprocate through behaviors that benefit the organization. Engaged employees who experience organizational support and meaningful involvement may therefore be more willing to contribute beyond their formally prescribed responsibilities. Knowledge sharing represents one such discretionary behavior because employees must invest time, effort, and intellectual resources to transfer their expertise to others. Contemporary studies continue to indicate that reciprocal relationships, organizational support, collaborative work environments, and employee motivation are important conditions supporting knowledge exchange (Singh, 2022; Hizam et al., 2023; Harshani et al., 2024).

Kahn's (1990) conceptualization of personal engagement further strengthens this explanation. Kahn describes engagement as the harnessing of organizational members' cognitive, emotional, and physical selves to their work roles. Employees who invest more of themselves in their work are therefore more likely to participate in behaviors extending beyond basic task requirements. Knowledge sharing is particularly relevant because it often requires voluntary effort and may not be formally rewarded. Engaged academic staff may nevertheless be willing to communicate expertise, provide advice, exchange teaching practices, discuss research experiences, and assist colleagues because they perceive these activities as meaningful contributions to their institution.

The Job Demands-Resources model provides a complementary explanation for this process (Bakker & Demerouti, 2007). Engagement can function as a motivational resource that encourages employees to invest additional effort despite the perceived costs associated with sharing knowledge. These costs may include time, cognitive effort, or concerns about losing exclusive expertise. Employees with stronger vigor and dedication may be more willing to absorb these costs for collegial and institutional benefit. Recent research applying the Job Demands-Resources and Social Exchange perspectives also demonstrates the close relationship between knowledge-sharing processes, organizational support, and work engagement (Harshani et al., 2024). Based on these theoretical and empirical arguments, this study proposes that **H1: work engagement is positively associated with knowledge sharing.**

Knowledge sharing becomes especially important in higher education because organizational capabilities depend substantially on how effectively individual expertise is transformed into collective institutional knowledge. Nonaka and Takeuchi's (1995) knowledge-creation perspective suggests that organizational capability is generated not merely by accumulating individual knowledge but through continuous processes of knowledge conversion. Tacit expertise held by individuals becomes organizationally useful when it is externalized, communicated, combined with other knowledge, and made accessible to other organizational members.

Recent research strengthens the relevance of this perspective to higher education. Fan and Beh's (2024) systematic literature review shows that knowledge sharing among academics is influenced by

individual, organizational, and technological factors, while also identifying technological determinants as comparatively underexplored. Similarly, Kumar et al. (2024), through a systematic review of empirical studies, demonstrate that information and communication technologies facilitate knowledge sharing across teaching and learning, university governance and operations, and research. These findings indicate that effective knowledge exchange is increasingly embedded within both social and technological dimensions of contemporary universities.

Knowledge sharing can therefore contribute to organizational performance through multiple channels. Academic staff may exchange teaching approaches that improve educational quality, research knowledge that supports scholarly productivity, administrative expertise that increases operational efficiency, or information that strengthens responsiveness to students and institutional partners. From this perspective, knowledge becomes organizationally valuable when it circulates rather than remaining concentrated within individual employees. Recent multi-country evidence also confirms that knowledge sharing can significantly contribute to organizational performance and operate as an important mechanism connecting internal organizational conditions with performance outcomes (Raziq et al., 2024). More recent evidence from knowledge-intensive organizations similarly supports the positive contribution of knowledge-sharing practices to organizational performance (Danko & Crhova, 2025).

The Resource-Based View provides additional support for this argument (Barney, 1991). Organizational resources can generate sustained competitive advantage when they are valuable, difficult to imitate, and embedded within organizational routines and capabilities. An institution composed of engaged employees who continuously exchange knowledge may gradually develop a collective knowledge base that competitors cannot easily replicate. Such knowledge is accumulated through relationships, experience, institutional history, and repeated interaction. Consequently, a workforce that actively shares expertise may offer greater organizational value than one in which employees are individually capable but knowledge remains fragmented or inaccessible.

Organizational performance in the present study is assessed using a multidimensional perspective based on the Balanced Scorecard developed by Kaplan and Norton (1992). Performance is considered across financial performance, learning and growth, internal processes, and stakeholder satisfaction. This multidimensional approach is particularly appropriate for higher education because institutional performance cannot be adequately represented by financial indicators alone. Universities simultaneously pursue operational efficiency, staff and organizational learning, service quality, innovation, and satisfaction among students and other stakeholders. Recent higher-education research also emphasizes that digital transformation and knowledge-management processes increasingly intersect with broader institutional performance outcomes (Abdellah et al., 2025). Accordingly, this study proposes **H2: knowledge sharing is positively associated with organizational performance.**

The conceptual relationship proposed in this study is illustrated in Figure 1.

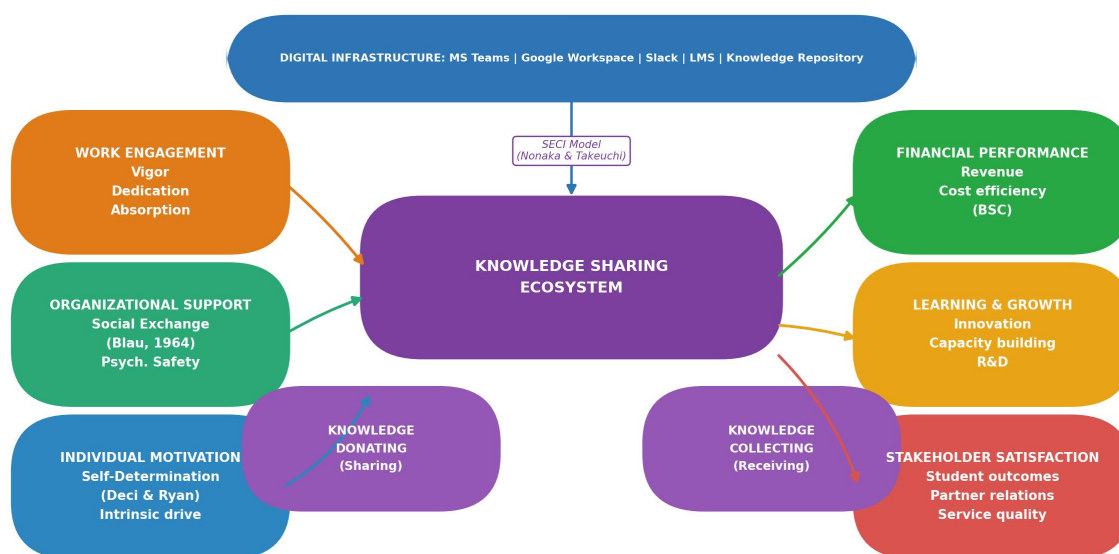


Figure 1. Digital Knowledge Ecosystem Framework (Conceptual Model): Work Engagement → Knowledge Sharing → Organizational Performance

image

Source: Authors' integrative conceptual framework based on Nonaka & Takeuchi (1995); Blau (1964); Barney (1991); Schaufeli et al. (2002). This figure presents the theoretical framework only; estimated path coefficients are reported separately in the Results (Table 4 and Figure 4).

The framework presented in Figure 1 makes a structural claim that differs from a simple engagement–performance model. Knowledge sharing is positioned as a mediating conduit rather than merely as another organizational outcome. This means that the association between work engagement and organizational performance is expected to operate substantially, although not exclusively, through employees' willingness to exchange knowledge. This proposed mechanism is consistent with recent studies showing that knowledge sharing can transmit the effects of employee- and organizational-level resources to important work and organizational outcomes (Singh, 2022; Raziq et al., 2024). The framework therefore connects individual-level motivational resources with collective organizational capability.

At the same time, knowledge sharing is not expected to account for the entire relationship between engagement and performance. Work engagement may also contribute directly to organizational performance through mechanisms that do not require interpersonal knowledge exchange. Rich et al. (2010), for example, show that engaged employees can contribute through stronger job performance, discretionary effort, persistence, and investment of personal resources in their roles. More recent meta-analytic evidence provides additional support for this direct relationship, demonstrating consistent positive associations between vigor, dedication, absorption, and employee performance (Corbeanu & Iliescu, 2023). Within higher education specifically, engagement has also been associated with stronger performance among faculty members (Ahamed et al., 2023).

In universities, engaged academic staff may similarly contribute directly through better teaching quality, responsiveness to students, research activities, administrative reliability, and sustained commitment to institutional responsibilities. These direct contributions are conceptually distinct from intentionally communicating knowledge to colleagues. Therefore, even when knowledge sharing is included as a mediating mechanism, a meaningful direct relationship between engagement and performance can reasonably remain. Based on this argument, the study proposes **H3: work**

engagement is positively associated with organizational performance directly, independent of knowledge sharing.

Combining these relationships leads to the central mediation proposition of the study. If work engagement encourages employees to share knowledge and knowledge sharing subsequently contributes to organizational performance, then part of the relationship between engagement and performance should operate through the knowledge-sharing pathway. Recent studies have increasingly emphasized mediation mechanisms involving knowledge sharing rather than assuming that employee and organizational resources translate directly into outcomes (Singh, 2022; Raziq et al., 2024). However, because engagement may also influence performance through direct task-related and service-related behaviors, knowledge sharing is expected to provide partial rather than complete mediation. Accordingly, the study proposes **H4: knowledge sharing partially mediates the relationship between work engagement and organizational performance.**

The proposed model is particularly relevant in the context of digital transformation. Digital platforms, enterprise social networks, learning management systems, collaborative repositories, and other communication technologies can reduce the transaction costs associated with exchanging organizational knowledge. These technologies allow employees to share information asynchronously, preserve knowledge in digital repositories, and communicate across departmental and organizational boundaries. Contemporary systematic evidence indicates that digital technologies increasingly support knowledge-sharing processes throughout university teaching, research, administration, and governance (Fan & Beh, 2024; Kumar et al., 2024). Recent research further suggests that collaboration technologies can foster a knowledge-sharing climate that supports employee productivity and innovative behavior (Shamout et al., 2025).

However, technology alone does not guarantee that knowledge will be shared. Ipe's (2003) integrative review emphasizes that knowledge-sharing decisions are influenced by motivational, relational, and organizational factors, including reciprocity, perceived power, trust, organizational identification, and opportunities for sharing. This argument remains relevant in recent higher-education research. Fan and Beh (2024) show that knowledge sharing among academics continues to depend on interacting individual, organizational, and technological antecedents, rather than technology in isolation. Digital infrastructure may therefore reduce the technical cost of exchanging knowledge but cannot independently eliminate psychological or cultural barriers.

This distinction is important for the digital knowledge ecosystem framework developed in the present study. Digital platforms are conceptualized as potential amplifiers of an underlying willingness to share rather than substitutes for employee engagement. Recent research on digital transformation among university employees likewise suggests that workforce engagement, knowledge-related behaviors, and digital capabilities operate as interconnected organizational processes rather than isolated technological effects (Hizam et al., 2023). Similarly, evidence on ICT-enabled knowledge sharing in higher education indicates that the effectiveness of technology remains intertwined with institutional practices and human participation (Kumar et al., 2024).

Nevertheless, the present study does not measure a digital-infrastructure construct and does not statistically test digital-platform use as a predictor, moderator, or mediator. Digital infrastructure is therefore treated strictly as a contextual and interpretive condition surrounding the proposed engagement–knowledge sharing–performance relationship. Claims concerning its amplifying role remain theoretical propositions for subsequent empirical investigation rather than hypotheses tested in the present structural model.

This distinction also clarifies the theoretical positioning of the study. The theoretical perspectives employed here explain different segments of the proposed model rather than being treated as a single unified theory. Social Exchange Theory (Blau, 1964) and Kahn's (1990) engagement perspective primarily explain why engaged employees may become more willing to share knowledge. The Job

Demands-Resources model (Bakker & Demerouti, 2007) offers a complementary motivational explanation for the engagement-to-knowledge-sharing relationship and the direct engagement-to-performance pathway. Nonaka and Takeuchi's (1995) knowledge-creation perspective explains how individual expertise can become organizational capability through knowledge exchange, while the Resource-Based View (Barney, 1991) explains why a collectively developed knowledge base may contribute to sustained organizational performance. Recent empirical studies provide contemporary support for these relationships without replacing the foundational theories on which they are based (Singh, 2022; Corbeanu & Iliescu, 2023; Raziq et al., 2024).

Although recent studies have examined digital transformation, knowledge-management processes, and organizational performance in higher-education institutions (Hizam et al., 2023; Kumar et al., 2024; Abdellah et al., 2025), while systematic reviews have increasingly mapped the antecedents and consequences of knowledge sharing among academics (Fan & Beh, 2024), comparatively few studies have formally examined knowledge sharing as a statistical mediator between work engagement and a multidimensional measure of organizational performance within the context of an Indonesian private university. Existing contemporary evidence establishes important links between work engagement and performance (Corbeanu & Iliescu, 2023), work engagement and knowledge sharing (Singh, 2022), and knowledge sharing and organizational performance (Raziq et al., 2024; Danko & Crhová, 2025). However, these relationships remain insufficiently integrated within a single explanatory model in Indonesian private higher education.

This gap is particularly relevant because higher education institutions increasingly operate as knowledge-intensive and digitally connected organizations in which performance depends not only on how motivated individual employees are but also on whether their knowledge can circulate across organizational boundaries. Recent systematic evidence confirms that knowledge sharing is essential across university teaching, research, and governance, while simultaneously highlighting the need for greater attention to technological and organizational conditions surrounding such exchanges (Fan & Beh, 2024; Kumar et al., 2024). A highly engaged academic workforce may therefore create limited institutional benefit when valuable expertise remains isolated among individual employees. Conversely, when engagement encourages knowledge exchange, individual motivation may become embedded in wider organizational capabilities.

Accordingly, this study develops a digital knowledge ecosystem framework in which work engagement represents the motivational input, knowledge sharing represents the central empirically tested mediating pathway, and organizational performance represents the institutional outcome. Digital infrastructure is positioned as a theoretically relevant contextual condition rather than a variable tested in the present model. The study examines these relationships using data from 208 academic staff at Universitas Muhammadiyah Tangerang (UMT) and Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4.0.

By adopting this framework, the study moves beyond the conventional narrative that engagement simply drives organizational performance. Instead, it investigates a specific mechanism through which engagement may translate into institutional outcomes. The study therefore contributes by formally testing knowledge sharing as a partial mediator between work engagement and multidimensional organizational performance in Indonesian private higher education, while providing a conceptual foundation for future research to examine whether digital infrastructure strengthens or conditions this relationship.

2. Method

Research Design

This study employed a cross-sectional survey design. The target population consisted of academic staff across the faculties and departments of Universitas Muhammadiyah Tangerang (UMT). Because

a verified, official headcount of this population was not available at the time of writing, the sample size was estimated using Slovin's formula with a 5% margin of error ($n = N / (1 + Ne^2)$), applied to an estimated population of approximately 465 academic staff; this yields a minimum required sample of approximately 215, which was adopted as the sampling target. This population figure should be read as an estimate used for sample-size planning rather than a verified administrative count; the authors recommend that the university's official faculty headcount be reported in any subsequent version of this manuscript to allow full replicability.

Proportionate stratified random sampling was used to ensure representation across faculty and department groups, with the number of respondents drawn from each stratum set proportional to that stratum's estimated share of the population; within each stratum, individual respondents were selected using simple random sampling from the stratum's staff list. Of the 215 targeted respondents, 208 returned valid, complete responses (response rate 96.7%).

The survey was administered as a structured, self-administered questionnaire distributed to academic staff between February and May 2026. Respondents with more than 10% missing responses on any construct were to be excluded from the analysis; no cases met this exclusion criterion in the final sample, and no data imputation was required. All items employed 5-point Likert scales and were translated into Bahasa Indonesia using a forward-backward translation procedure; the translated instrument was pilot-tested with a small group of academic staff outside the main sample to check item clarity and completion time before full administration.

PLS-SEM was selected over covariance-based SEM because the study's objective is predictive and exploratory, explaining variance in knowledge sharing and organizational performance, rather than confirmatory theory testing, and because PLS-SEM performs well with the present sample size and with reflectively measured, first-order constructs. None of the three constructs (Work Engagement, Knowledge Sharing, Organizational Performance) were modeled as higher-order constructs; all indicators load directly onto their respective first-order latent variable. SmartPLS 4.0 was used for all analyses.

Because the Organizational Performance items ask individual academic staff to rate financial, learning and growth, internal process, and stakeholder-satisfaction outcomes as they themselves perceive them, rather than drawing on independently verified institutional records, the construct is more precisely labeled perceived organizational performance. This more precise label is used consistently from this point forward in the manuscript.

Ethical procedures were followed throughout the study, although no formal review or approval was sought from a university or external research ethics committee. Participation was voluntary, respondents provided informed consent prior to participation, responses were anonymized before analysis, and confidentiality of individual data was maintained throughout data collection, storage, and reporting.

Table 1. Measurement Indicators Summary

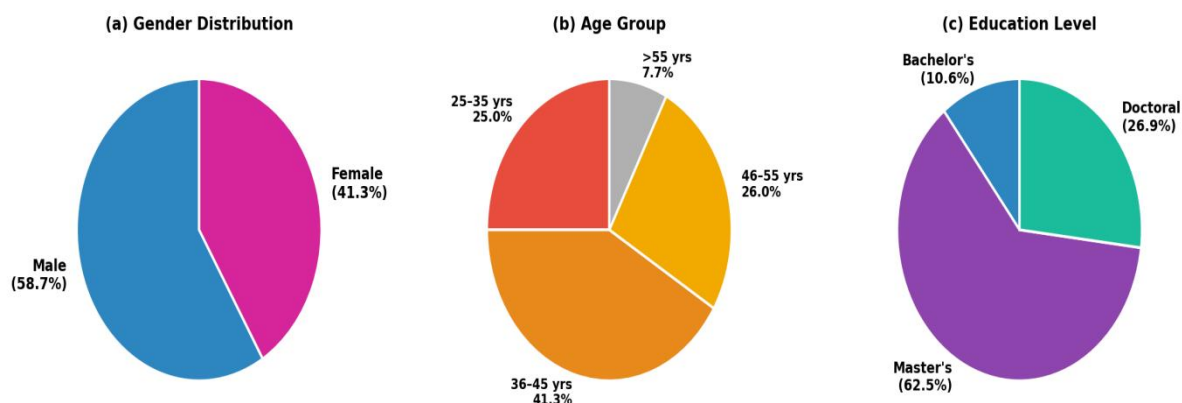
Variable	Dimension	Items	Source
Work Engagement (WE)	Vigor: Energy & mental resilience	3	UWES-9 (Schaufeli et al., 2006)
	Dedication: Enthusiasm, pride & challenge	3	
	Absorption: Total immersion & concentration	3	
Knowledge Sharing (KS)	Knowledge Donating:	4	Wang & Noe (2010);

	Communicating knowledge		Bock et al. (2005)
	Knowledge Collecting: Consulting to gain knowledge	4	
Perceived Organizational Performance (OP)	Financial Performance: Revenue & cost efficiency	2	Kaplan & Norton (1992) BSC
	Learning & Growth: Capacity building and innovation	2	
	Internal Processes: Operational efficiency & quality	2	
	Stakeholder Satisfaction: Student/partner satisfaction	1	

Source: Authors' compilation based on referenced instruments. Note: Organizational Performance indicators reflect respondents' own perceptions of institutional performance (perceived organizational performance), not independently audited institutional records.

Respondent Profile

Figure 2. Respondent Demographic Profile (N = 208 Academic Staff, UMT, 2026)



Source: Primary data (2026).

This demographic concentration is worth noting when interpreting the study's results: the sample is weighted toward mid-career academic staff holding at least a Master's degree. One plausible, though untested, interpretation is that this segment holds established disciplinary expertise and comparatively greater career security, which could make knowledge sharing feel less risky in competitive academic environments. Because employment security and perceived reputational risk were not directly measured in this study, this interpretation should be treated as a speculative possibility rather than a tested finding. Generalizing the findings to early-career or contractually precarious academic staff, for whom these psychological-safety costs may be higher, should therefore be done cautiously, a point revisited in the discussion of boundary conditions in Section 5.4 (Wang & Noe, 2010).

3. Results and Discussion

Measurement Model

Table 2. Measurement Model Results: Reliability and Validity

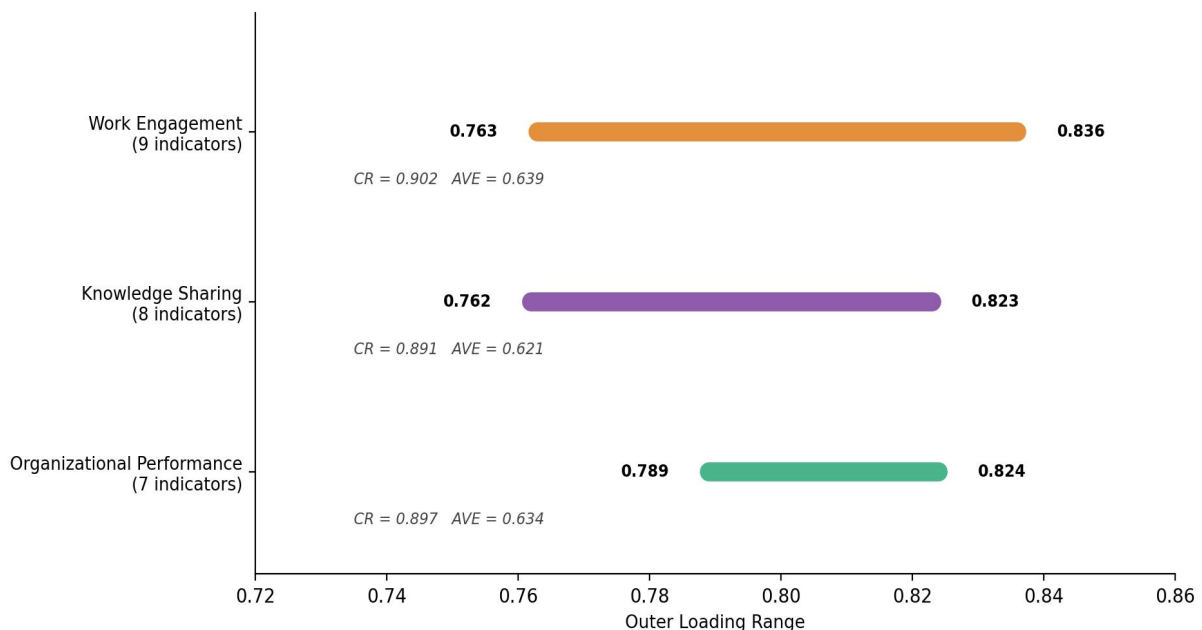
Construct	Outer Loading Range	Cronbach's α	CR	AVE
Work Engagement (9 indicators)	0.763–0.836	0.871	0.902	0.639
Knowledge Sharing (8 indicators)	0.762–0.823	0.855	0.891	0.621
Perceived Organizational Performance (7 indicators)	0.789–0.824	0.868	0.897	0.634

Note: All outer loadings > 0.70; CR > 0.80; AVE > 0.50. Discriminant validity was additionally assessed using the Heterotrait-Monotrait (HTMT) ratio (Henseler et al., 2015); the full HTMT matrix and item-level outer loadings for all three constructs are reported in the Supplementary Material.

Source: SmartPLS 4.0 (2026).

The measurement model results in Table 2 establish that all three constructs meet or exceed conventional convergent validity and reliability thresholds (Hair et al., 2019), which means the structural path coefficients reported in Table 4 can be interpreted as estimates of relationships among the underlying constructs rather than as artifacts of measurement error. The comparatively tight loading range for Work Engagement (0.763 to 0.836) suggests the UWES-9's three sub-dimensions, Vigor, Dedication, and Absorption, cohere unusually well in this academic staff sample, which is consistent with prior findings that engagement measures perform more consistently in professional, high-autonomy occupations such as academia than in more heterogeneous general workforce samples (Bakker & Bal, 2010).

Figure 3. Measurement Model Summary: Outer Loading Range, Composite Reliability (CR), and AVE by Construct



Note: Ranges reflect construct-level outer loadings reported in Table 2 (all loadings > 0.70). Source: SmartPLS 4.0 (2026).

Figure 3 visualizes the construct-level convergent validity results already summarized in Table 2, plotting the outer-loading range, composite reliability, and AVE for each of the three constructs side by side. All three ranges clear the conventional 0.70 threshold, and Work Engagement (0.763–0.836) shows the narrowest spread of the three, consistent with the UWES-9 sub-dimensions cohering unusually well in this sample. A caveat on interpretation is warranted here: because Table 2 and

Figure 3 report loading ranges at the construct level rather than the individual-item level, they do not support inferences about which specific sub-dimension, such as Vigor, Dedication, or Absorption, is most strongly expressed by respondents. Such a claim would require the full item-level loading table, which is provided in the Supplementary Material together with the corresponding HTMT matrix. Any practical recommendations about which engagement sub-dimension to prioritize in institutional interventions should accordingly await that more granular analysis rather than being drawn from the construct-level summary presented here.

Structural Model and Hypothesis Testing

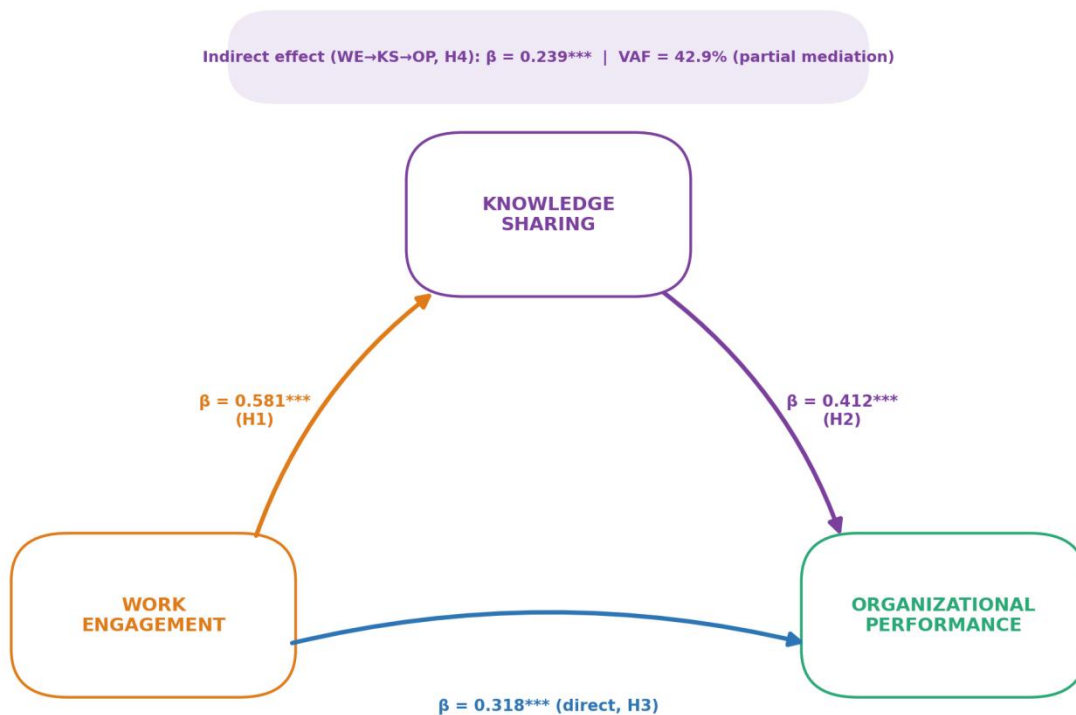
Table 3. Structural Model Assessment: R² for Endogenous Constructs

Endogenous Construct	R ²	Interpretation (Hair et al., 2019)
Knowledge Sharing	0.338 (33.8%)	Moderate
Perceived Organizational Performance	0.694 (69.4%)	Substantial

Source: SmartPLS 4.0 (2026).

Table 3 formalizes the R² values reported in the abstract: the model explains 33.8% of the variance in Knowledge Sharing and 69.4% of the variance in perceived Organizational Performance. Following Hair et al.'s (2019) guidelines, the R² for Organizational Performance falls in the substantial range, while Knowledge Sharing's R² falls in the moderate range, indicating that work engagement alone explains a meaningful, though partial, share of staff knowledge-sharing behavior, leaving room for other antecedents, such as organizational culture or digital-infrastructure use, that are not modeled here.

Figure 4. PLS-SEM Structural Path Model: Work Engagement → Knowledge Sharing → Organizational Performance



Source: SmartPLS 4.0 (2026), based on path coefficients reported in Table 4. All paths significant at $p < 0.001$. Bootstrapping 5,000 subsamples.

Table 4. Structural Model Results: Path Coefficients and Hypothesis Testing

Hypothesis / Path	β (Path Coeff.)	Std. Error	t-value	p-value	Decision
H1: WE $\rightarrow$ KS	0.581	0.062	9.371	< 0.001	Supported
H2: KS $\rightarrow$ OP	0.412	0.058	7.103	< 0.001	Supported
H3: WE $\rightarrow$ OP (Direct)	0.318	0.071	4.479	< 0.001	Supported
H4: WE $\rightarrow$ KS $\rightarrow$ OP (Indirect)	0.239	0.049	4.878	< 0.001	Supported
Total Effect: WE $\rightarrow$ OP	0.557	0.064	8.703	< 0.001	–

Note: WE = Work Engagement; KS = Knowledge Sharing; OP = Perceived Organizational Performance. Bootstrapping $n = 5,000$. Source: SmartPLS 4.0 (2026).

Figure 4 visualizes the path coefficients reported in Table 4: the WE-to-KS path ($\beta = 0.581$) is the largest single coefficient in the model, followed by the KS-to-OP path ($\beta = 0.412$) and the WE-to-OP direct path ($\beta = 0.318$). Read together with Table 5's mediation analysis, this pattern is consistent with the paper's central claim that knowledge sharing accounts for a substantial, though not exclusive, share of work engagement's total statistical association with perceived organizational performance.

Table 5. Mediation Analysis Summary

Path	Direct Effect (β)	Indirect Effect (β)	Total Effect (β)	VAF (%)	Mediation Type
WE $\rightarrow$ (KS) $\rightarrow$ OP	0.318***	0.239***	0.557***	42.9%	Partial Mediation

VAF = Variance Accounted For = Indirect/Total. VAF > 20% = partial mediation (Hair et al., 2019). Source: SmartPLS 4.0 (2026).

The 42.9% VAF reported in Table 5 sits within Hair et al.'s (2019) partial mediation range (20% to 80%), and its position toward the middle of that range carries a substantive message that a simple 'supported/not supported' mediation verdict would obscure: knowledge sharing is an important, but not exclusive, statistical mediator. Approximately 57% of engagement's total association with performance is captured by the direct pathway rather than the indirect one, meaning UMT leadership cannot treat knowledge-sharing facilitation as a complete substitute for other engagement-to-performance mechanisms already established in the literature, such as engaged staff's direct contribution to service quality and student-facing performance (Rich et al., 2010), which likely constitute part of that residual direct effect.

Discussion

Engagement as the Antecedent of Knowledge Sharing (H1)

The strong engagement-to-knowledge sharing path ($\beta = 0.581$) is consistent with the Social Exchange Theory mechanism: engaged staff reciprocate organizational support through active knowledge contribution (Blau, 1964; Cummings, 2004). This strong path is broadly consistent with related work in digitally mature higher-education contexts, where dispositional and motivational factors have been shown to be closely intertwined with knowledge-sharing and digital-engagement behaviors among

university staff (Hizam et al., 2023). Because that study modeled knowledge sharing as one of several predictors of engagement in a Malaysian university-staff sample, rather than as an outcome of engagement as in the present study, a direct numerical comparison of path coefficients is not appropriate here; the citation is offered as convergent contextual evidence that engagement and knowledge-sharing behaviors are closely linked among university staff in digitally engaged institutions, rather than as a like-for-like benchmark. The relative importance of engagement versus digital-workplace factors as knowledge-sharing antecedents likely depends on how digitally mature the host institution already is, a boundary condition worth testing directly in future replications.

Knowledge Sharing's Contribution to Organizational Performance (H2)

Knowledge sharing's significant positive association with perceived organizational performance ($\beta = 0.412$, $p < 0.001$) is consistent with Danko and Crhová's (2025) empirical finding that knowledge sharing between managers and employees enhances organizational performance, supporting the view that organizational knowledge, once actively circulated rather than merely possessed, becomes a productive institutional asset. The Balanced Scorecard operationalization used here (Kaplan & Norton, 1992) allows this effect to be interpreted across financial, learning and growth, internal process, and stakeholder satisfaction dimensions simultaneously, which extends single-dimension performance studies in the higher-education literature. For example, Ait Oufkir et al.'s (2025) study of Moroccan higher education institutions examined knowledge-management processes and organizational performance using a narrower set of institutional indicators; the present study's four-dimension Balanced Scorecard operationalization offers a more multidimensional view of a broadly similar relationship in a different national and institutional context, and suggests that knowledge sharing's institutional payoff is broad-based rather than confined to any single performance domain.

Knowledge Sharing as a Statistical Mediator, Not Only a Correlate (H4)

The mediation finding (indirect $\beta = 0.239$; VAF = 42.9%) is consistent with knowledge sharing functioning as a statistically significant partial mediator, rather than a mere correlate, between engagement and performance. This should be read as evidence of a statistical mediation pattern rather than a demonstrated causal or conversion mechanism, since the cross-sectional design cannot establish temporal precedence. This has a practical implication for UMT leadership: investments in work engagement infrastructure (participatory decision-making, professional development, psychological safety) may be more fully reflected in institutional performance gains when accompanied by deliberate knowledge sharing facilitation through digital platforms, peer learning forums, and inter-departmental collaboration structures.

Theoretically, this finding may help clarify an ambiguity left open by prior engagement-performance studies that report a significant direct relationship without testing an explicit mediating mechanism (Harter et al., 2002; Saks, 2006): it is plausible that those studies' direct effects already contain an unmeasured knowledge-sharing component, which would suggest that the engagement-performance relationship they report is partly a composite of the mechanism this study specifies and isolates. This interpretation is offered as a plausible reading of the present findings rather than a tested claim about those studies' own data, since no direct comparison with their datasets was conducted. If it holds, engagement interventions that do not also strengthen knowledge circulation may be leaving some of their potential performance return unrealized.

The Role of Digital Infrastructure: An Interpretive Extension, Not a Tested Effect

This study did not measure or test a digital-platform construct, and no moderation or amplification effect involving digital infrastructure was estimated in the structural model. The discussion in this section is therefore offered as an interpretive extension grounded in the literature (Kane et al., 2019; Shamout et al., 2025) and in the respondent profile reported in Section 3.2, rather than as a finding of the present study. Kane et al. (2019) caution that digital tools tend to amplify existing organizational

dynamics rather than create new ones; if applicable here, this would suggest that UMT's digital infrastructure investment may be more consequential for staff who are already inclined to share knowledge than for those who are not. Combined with the demographic concentration of the sample toward mid-career, professionally secure academic staff, this raises the possibility that realizing comparable knowledge-sharing gains among early-career or more precariously employed staff could require complementary psychological-safety interventions alongside digital infrastructure investment. This remains a proposition for future research: a formal test of digital-platform use, and of career stage or employment security, as moderators of the engagement-to-knowledge-sharing path is a necessary next step before any amplification claim can be treated as evidence-based.

The digital knowledge ecosystem framework offers a conceptual reframing of the engagement-performance literature: engagement is proposed as the motivational input, knowledge sharing as the empirically supported mediating pathway identified in this study, and digital infrastructure as a hypothesized, but not yet tested, contextual condition. Future research should test whether specific digital-platform features (e.g., notification design, gamification, social network structure) moderate the engagement-to-knowledge-sharing relationship, and whether the amplification account proposed here replicates in less digitally mature Indonesian universities.

4. Conclusion and Suggestion

All four hypotheses were supported, and the results indicate that knowledge sharing is associated with perceived organizational performance not merely as a correlate of engagement but as a statistically significant partial mediator through which engagement relates to institutional outcomes. The principal contribution of this study is conceptual: it specifies knowledge sharing as a statistically supported mediating pathway between engagement and performance, consistent with partial mediation rather than a demonstrated causal or conversion mechanism, and situates this pathway within a broader digital knowledge ecosystem framing in which digital infrastructure is proposed, though not yet tested, as a contextual condition. Read this way, the framework offers institutional leaders a more actionable diagnostic than a simple engagement score, since it points to knowledge sharing specifically, rather than engagement in general, as a lever for intervention, while flagging digital infrastructure as a condition warranting further empirical study rather than an established one.

This study has limitations that qualify these conclusions. The cross-sectional design captures associations at a single point in time and cannot establish the causal direction implied by the structural model; longitudinal or experimental designs would be needed to confirm that engagement precedes and produces knowledge sharing rather than the reverse. The sample is also drawn from a single private university in Tangerang, which constrains generalizability to other institutional types, such as public universities, vocational institutions, or non-academic knowledge-intensive organizations, where digital maturity and staff employment security may differ substantially. In addition, because no digital-infrastructure variable was measured, claims about the amplifying role of digital platforms remain interpretive rather than tested and should be treated as hypotheses for future confirmatory research using measured digital-usage variables and, ideally, longitudinal or multi-group moderation designs. Common method bias, associated with single-source, single-time-point self-report data, is a further limitation that future studies could address through multi-source or time-lagged designs.

Two further methodological limitations warrant explicit acknowledgment. The population figure used for sample-size planning (Section 3.1) was an estimate rather than a verified administrative count, and no formal ethics-committee approval was sought for this study. Future iterations of this research program should include institutional ethics review and verified population records to strengthen methodological transparency. Future research should also test the framework's boundary conditions longitudinally and across a broader range of institutions.

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