

Developing an Integrative Framework of Technological and Organizational Factors for Knowledge Sharing

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ABSTRACT

Drawing upon the Theory of Planned Behavior (TPB), the Information Systems Success Model, and Social Capital Theory, **this research** develops an integrative socio-technical framework to explain Knowledge Sharing Behavior (KSB) in the construction consulting sector. Data were collected from 138 executives of construction-consulting firms in East Java, Indonesia, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). **The study** examines the impact of technological factors (perceived usefulness, system quality, information quality) and organizational factors (normative commitment, shared goals, internal policy, mutual benefit) on KSB, with intention as a mediating variable. The results reveal that technological factors significantly enhance the intention to share knowledge but have no direct effect on actual behavior. In contrast, organizational factors exhibit both direct and indirect influences, underscoring their central role in fostering collaborative knowledge-sharing. **These findings** highlight the comparative advantage of motivational and cultural drivers embedded in organizational structures over the enabling role of technology. **The study contributes** to the knowledge management literature by presenting a context-specific model suitable for environments with low digital maturity. It also offers actionable insights for organizations aiming to strengthen collaboration-oriented knowledge strategies through policy, culture, and leadership, particularly in high power-distance settings such as Indonesia's construction sector.

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1. INTRODUCTION

Knowledge Sharing Behavior (KSB) is a relational and social process through which individuals develop shared understanding using symbols, tools, and information technology [1]. It plays a critical role in

transferring expertise, driving innovation, reducing work duplication, and enhancing decision-making [2]. As a core organizational strategy, KSB contributes to long-term sustainability and organizational competitive advantage [3]. In the construction consultancy industry, KSB is particularly important due to project complexity, multidisciplinary involvement, and the need for cross-team collaboration. In the context of SDG 9 (Industry, Innovation, and Infrastructure), digital platforms, project documentation, training programs, and mentoring are commonly used to support KSB, driving both technological innovation and sustainable infrastructure development. The role of technology in enabling knowledge sharing directly aligns with SDG 11 (Sustainable Cities and Communities), as it fosters better collaboration in the design, planning, and management of urban construction projects, contributing to more sustainable and resilient cities. Digital platforms, project documentation, training programs, and mentoring are commonly used to support KSB [4]. For these efforts to be effective and sustainable, both technical and managerial knowledge must be systematically managed through knowledge management practices, which have been shown to improve efficiency, innovation, and competitiveness [5].

As both generators and consumers of knowledge, construction consultants play a pivotal role in reinforcing organizational learning and ensuring project success [6]. However, KSB is frequently hindered by individual resistance, driven by concerns over losing influence or status [7]. When framed as a shared asset rather than personal property, knowledge becomes a collective resource with high strategic value [8]. In the absence of effective KSB, construction projects in Indonesia often experience repeated mistakes, delays, and budget overruns, which undermine overall project performance.

Previous studies have identified several key drivers of successful KSB, including normative commitment, internal policies, shared goals, and mutual benefits [1, 9–12]. Research also suggests that mutual benefits, both within and across organizations, can strengthen the willingness to share knowledge, while information technology and professional social media platforms have emerged as essential enablers in facilitating these exchanges [13, 14]. Most existing studies emphasize individual-level factors through psychological or social lenses, with limited attention to the interaction of organizational and technological dimensions, especially in private construction consultancy firms in Indonesia. This sector is characterized by informal communication, low digital maturity, and fragmented knowledge practices that are often unsystematically managed. These conditions highlight the need for a more integrative analytical approach. This study addresses this gap by proposing a socio-technical framework that jointly examines organizational and technological enablers of knowledge-sharing, offering a holistic understanding tailored to this industrial and cultural context.

To address this gap, the present study proposes a conceptual framework that examines how technological factors including perceived usefulness, system quality, information quality and organizational factors such as commitment, internal policy, mutual benefit, and shared goals influence knowledge-sharing behavior. Specifically, the study investigates the mediating role of knowledge-sharing intention in these relationships. This study aims to contribute empirical insights to the construction-sector knowledge-sharing literature, especially in the Indonesian context, and to provide a relevant conceptual model for effective knowledge management in construction consultancy firms. Accordingly, this study seeks to answer the following question:

- RQ: To what extent do technological and organizational factors influence knowledge-sharing behavior among construction consultants, and is this relationship mediated by the intention to share knowledge?.

In the context of constructionpreneurship, consulting firms increasingly operate as technopreneurial entities, where value creation depends not only on engineering expertise but also on the effective utilization of digital systems, information platforms, and collaborative technologies. These firms function at the intersection of construction services and technology-enabled knowledge processes, aligning them closely with core principles of technopreneurship. Consequently, knowledge sharing behavior becomes a critical mechanism through which digitalization and organizational innovation are realized in construction consulting practices.

2. LITERATURE REVIEW

Various theoretical approaches have been employed to explain knowledge-sharing behavior in organizations, particularly in technology-driven environments. Accordingly, this study draws on three complementary theories as the foundation of its conceptual framework: the Theory of Planned Behavior (TPB), the Information System Success Model (ISSM), and Social Capital Theory (SCT). Together, they represent the psychological, technological, and socio-organizational dimensions of KS. TPB posits that intention is the primary predictor

of behavior, shaped by attitudes, subjective norms, and perceived behavioral control [15, 16]. In organizational settings, positive attitudes toward KS, such as believing it enhances work efficiency, can strengthen sharing intentions [17]. Subjective norms reflect individuals' perceptions of social expectations, especially within collaborative organizational cultures [18, 19]. Perceived behavioral control involves individuals' sense of capability, influenced by technological support and organizational policies [1].

However, TPB alone does not sufficiently capture the role of technology in shaping KSB. To fill this gap, ISSM introduces system quality, information quality, and perceived usefulness as key enablers [20]. Reliable and user-friendly systems that deliver relevant information build user trust and promote engagement in KS activities [13]. Recent applications of ISSM in construction organizations highlight its relevance, particularly in assessing Building Information Modeling (BIM) adoption and acceptance at the organizational level and in identifying critical success factors for BIM success in interface management [21–23]. SCT adds a socio-structural perspective, highlighting the role of trust, shared norms, and social networks in facilitating knowledge exchange [24]. These elements are evident in collaborative cultures [25, 26], internal policies [1], and values such as mutual benefit and shared goals [12]. All of which help create a conducive environment for KS. Although normative commitment and shared goals are both normatively driven constructs, they operate at distinct analytical levels. Normative commitment reflects individual-level moral obligation, whereas shared goals represent collective-level alignment of objectives that guides coordinated action. Accordingly, normative commitment captures motivational internalization at the individual level, while shared goals capture cognitive alignment across organizational members.

To strengthen theoretical integration, the relationships among the models are clarified. SCT emphasizes social networks and trust that shape subjective norms through shared goals and commitment. Organizational norms further reinforce a collaborative environment. Meanwhile, ISSM's system quality, information quality, and perceived usefulness enhance perceived behavioral control and positive attitudes toward KSB in TPB. Collectively, psychological, technological, and organizational factors jointly drive knowledge-sharing intention and behavior. Empirically, prior studies often examine only partial dimensions. For example, [27] focus on technological factors such as system quality and usefulness without considering organizational culture or interpersonal dynamics. In contrast, [28] emphasize trust mechanisms and internal policies but overlook technological enablers. These fragmented approaches highlight the need for an integrative model combining organizational and technological factors.

By integrating TPB, ISSM, and SCT, this study develops a comprehensive theoretical framework in which TPB explains individual psychological drivers, ISSM addresses technological support, and SCT highlights organizational and social factors. This integration provides a robust basis for understanding KS behavior, as prior studies suggest that no single theory can fully capture the multifaceted psychological, social, organizational, and technological determinants of knowledge sharing [29, 30].

Based on the reviewed literature and the specific characteristics of the construction consultancy industry, this study proposes a conceptual model Figure 1 integrating organizational factors (commitment, policy, mutual benefit, shared goals) and technological factors (perceived usefulness, system quality, information quality) to explain knowledge-sharing intention and behavior.

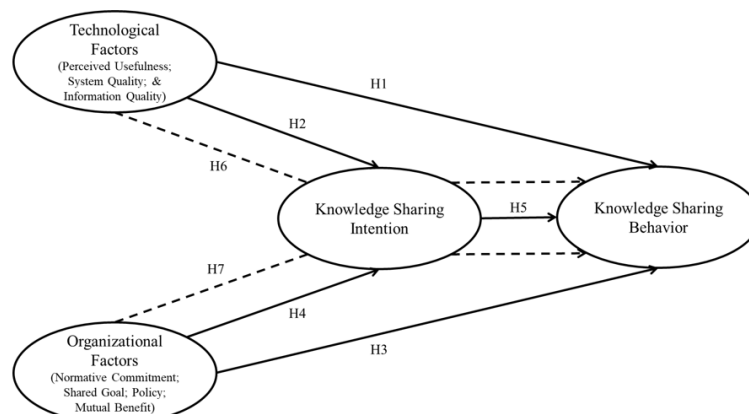


Figure 1. Conceptual Framework

Based on the theoretical elaboration of technological and organizational factors, the following hypotheses are proposed:

- H1: Technological factors are positively related to KSB.
- H2: Technological factors are positively related to KSI.
- H3: Organizational factors are positively related to KSB.
- H4: Organizational factors are positively related to KSI.
- H5: KSI is positively related to KSB.
- H6: KSI mediates the relationship between technological factors and KSB.
- H7: KSI mediates the relationship between organizational factors and KSB.

3. RESEARCH METHODS

This study adopted a cross-sectional survey targeting executives of construction consulting firms in East Java, Indonesia. Using purposive sampling, 148 questionnaires were distributed to directors, senior managers, and project managers with at least five years of professional experience; 138 valid responses were obtained, yielding a 93.24% response rate. This sampling approach was chosen to ensure that respondents possessed sufficient expertise and decision-making authority relevant to organizational and technological practices. Data were collected between February and May 2025 through two channels:

an online survey distributed via professional networks, particularly the Indonesian Construction Consultant Association (INKINDO), and hard copies delivered directly to selected firms. The instrument comprised 36 items adapted from established scales, covering nine constructs namely perceived usefulness (five items) [31] system quality (five items) [32–34] information quality (three items) shared goals (three items) normative commitment (six items) [35, 36] internal policy (two items) [37] mutual benefit (three items) [38, 39] knowledge-sharing intention (four items) [40] and knowledge-sharing behavior (five items) [41].

All items were measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), and completion required approximately 15–18 minutes. Participation was voluntary, and confidentiality of responses was assured. Data were analyzed with Partial Least Squares–Structural Equation Modeling (PLS-SEM) using SmartPLS 4.1. PLS-SEM was selected for its robustness in handling complex models, formative indicators, and non-normal data; the procedure comprises three steps: model specification, measurement-model (outer-model) evaluation, and structural-model (inner-model) evaluation. A disjoint two-stage approach was employed. In Stage 1, the measurement models for the dimensional constructs, namely perceived usefulness, system quality, information quality, normative commitment, shared goal, policy, and mutual benefit, were assessed, and their latent variable scores were extracted. In Stage 2, these scores served as indicators in the structural model. This approach yields more precise estimates of higher-order constructs and is particularly suitable for models containing both unidimensional and multidimensional constructs.

4. RESULTS AND DISCUSSION

4.1. Outer Model Evaluation

In the first stage, the outer model was evaluated to assess the consistency and measurement accuracy of each unidimensional construct (KSI and KSB) and each dimensional construct (perceived usefulness, system quality, information quality, normative commitment, shared goal, policy, and mutual benefit). Consistency at the indicator level was measured through reliability analysis for both indicators and constructs. Based on estimation, the outer loading values were between 0.70 and 0.92, meeting the minimum indicator reliability standard of 0.70. Additionally, composite reliability values for each construct ranged from 0.86 to 0.94, exceeding the 0.70 threshold for internal consistency reliability. Therefore, the reliability requirements for each construct were satisfied. Measurement accuracy was evaluated using convergent validity and discriminant validity analyses. The Average Variance Extracted (AVE) values ranged from 0.66 to 0.81, surpassing the 0.50 standard and meeting convergent validity criteria. Discriminant validity was assessed through the Heterotrait-Monotrait Ratio (HTMT) analysis, with values below 0.90, indicating that each construct is empirically distinct. Thus, the outer model evaluation yielded satisfactory results, allowing the analysis to proceed to the inner model.

4.2. Inner Model Evaluation

Collinearity analysis was conducted in the first stage to ensure that neither dimensional nor unidimensional constructs were interrelated. All constructs were linked to a single random construct of equivalent size to the tested data. Variance Inflation Factor (VIF) values, which should not exceed 5, ranged from 1.16 to 2.76, indicating no collinearity issues. This ensures that each predictor contributes unique variance, maintaining the integrity of path coefficient estimates. Additionally, VIF values below 3.30 confirmed the absence of common method variance problems [42].

In the second stage, the latent variables for perceived usefulness, system quality, and information quality were designated as formative indicators of the technological factor. Similarly, normative commitment, shared goal, policy, and mutual benefit were assigned as formative indicators of the organizational factor. With collinearity absence, the significance of outer weights was analyzed to ensure each latent variable score contributed to the technological and organizational factors. The analysis confirmed that all indicators significantly contributed to building the technological and organizational factors, validating them for further analysis. Path coefficient analysis and hypothesis testing were conducted using bootstrapping. All path coefficients were positive Table 1. Path significance was determined by t-statistics exceeding 1.65 or p-values below 0.05. One path coefficient, namely the effect of the technological factor on KSB, was not significant. However, its indirect effect through KSI was significant, classifying it as indirect-only. In contrast, the organizational factor showed both significant direct and indirect effects, classifying it as complementary mediation.

Table 1. Hypothesis Test Results

Hypotheses	Structural Path	Original sample	T statistics	P values	Decision
H1	TF → KSB	0.13	1.45	0.07	Not supported
H2	TF → KSI	0.20	1.79	0.04	Supported
H3	OF → KSB	0.27	3.87	0.00	Supported
H4	OF → KSI	0.52	5.42	0.00	Supported
H5	KSI → KSB	0.55	6.18	0.00	Supported
H6	TF → KSI → KSB	0.11	1.84	0.03	Supported (Indirect Only)
H7	OF → KSI → KSB	0.29	3.76	0.00	Supported (Complementary Mediation)

Hypothesis testing was further supported by explanatory power analysis see Table 2, using coefficients of determination (R^2) and effect sizes (f^2). R^2 values for KSI and KSB were 0.45 (moderate) and 0.70 (large), respectively. Indicating that the exogenous constructs adequately explained both constructs. The technological factor's contribution was minimal, with effect sizes below 0.15. Conversely, the organizational factor's contribution to KSI was moderate ($0.15 < f^2 < 0.35$). KSI significantly explained KSB, with an effect size of 0.56.

Table 2. Explanatory Power Analysis

Variable(s)	R^2	Effect Size (f^2)		
		TF	OF	KSI
KSI	0.45	0.04	0.27	-
KSB	0.70	0.03	0.10	0.56

Predictive power was assessed using the PLS predict procedure to estimate the model's applicability to external samples. Q^2 predict values for all endogenous construct indicators ranged from 0.27 to 0.37, indicating predictive capability. Additionally, PLS-RMSE and PLS-MAE values were lower than their LM counterparts, demonstrating high predictive strength. Therefore, the study's findings can be statistically generalized to other contexts.

4.3. The Role of Technological Factors

The acceptance of hypotheses H2 and H6, alongside the rejection of H1, reveals an indirect-only mediation pattern. Specifically, technological factors (system quality, information quality, and perceived usefulness) influence KSB only through intention. This finding confirms that the presence of information systems, regardless of their quality, is insufficient to directly trigger knowledge-sharing behavior without the formation of intention. From an applied perspective, these findings suggest that digital systems, such as BIM-based

knowledge repositories or integrated KMS platforms, do not automatically stimulate knowledge sharing unless they are embedded within organizational routines that cultivate intention, accountability, and perceived mutual benefit. Rather, technology enhances psychological readiness by shaping favorable perceptions of ease of use, utility, and accessibility, thereby strengthening KSI. This pattern aligns with the TPB, which positions intention as the strongest predictor of behavior, and is consistent with TAM, which emphasizes perceived usefulness as a key antecedent of intention.

The relatively low effect size of technological factors further suggests their role as supporting, rather than determining, role in driving KSB. This pattern reflects the nature of construction consulting, which relies heavily on informal communication, trust, and interpersonal interactions. This reliance is evident in practices such as the continued use of printed documents and reliance on informal communication channels like WhatsApp, rather than integrated knowledge management platforms. Additionally, low digital maturity and signs of technological fatigue [43, 44] may dampen the impact of IT systems, especially in environments where digital platforms are not yet seamlessly integrated into daily workflows. Low digital maturity refers to the limited integration of digital systems into core business operations, inadequate IT infrastructure, and a lack of standardized digital workflows within many consulting firms. Technological fatigue, meanwhile, manifests in user disengagement, cognitive overload, and resistance to adopting new tools, particularly when digital systems are perceived as misaligned with daily tasks or overly complex without sufficient training support.

These challenges are not merely conceptual but are reflected in empirical evidence showing that the digital maturity of Indonesia's construction sector remains relatively low. BIM implementation, for example, remains at Level 1 (score 1.16), limited to 2D/3D CAD applications [45], while Business Continuity Management (BCM) adoption is categorized as moderate (66.16%) [46]. At the industry level, construction ranks as the second-lowest sector in digital transformation, underscoring underutilization of technological systems. These conditions highlight the critical role of KSB, which becomes effective only when supported by both organizational and technological enablers, in line with the socio-technical framework. Accordingly, in contexts such as Indonesia, where face-to-face communication, informal WhatsApp groups, and printed documentation remain dominant, technological systems tend to be underutilized for active knowledge sharing. The limited institutionalization of KM platforms and resistance to formal digital workflows further diminish the likelihood of direct behavioral change. Unlike prior studies in manufacturing, healthcare, or education sectors, this study highlights the nuanced role of technology in construction consulting, where collaborative behavior is often grounded in trust-based, face-to-face communication. In such settings, technology serves as an enabler rather than a catalyst.

4.4. The Role of Organizational Factors

In contrast, the support for H3, H4, and H7 indicates a complementary mediation pattern for organizational factors. Organizational factors exert direct and indirect effects on KSB through intention, underscoring their primary role in shaping a supportive knowledge-sharing environment. Unlike technological enablers that function primarily as passive facilitators, organizational factors act as active levers capable of shaping behavior through formalized structures, normative pressure, and direct interventions. In high power distance cultures such as Indonesia, where hierarchical orientation prevails, organizational directives such as policies, supervisor instructions, and institutional norms tend to be more influential in prompting knowledge-sharing behavior than individual volition alone. Key organizational drivers such as normative commitment, shared goals, supportive policies, and mutual benefit collectively foster a collaborative climate. Normative commitment instills moral responsibility, while shared goals generate a sense of collective ownership. The perception of reciprocal value reinforces motivation to share knowledge [47].

From a socio-psychological perspective, these mechanisms cultivate a climate of knowledge-sharing, an environment characterized by shared norms, values, and mutual expectations [15, 48]. Organizational support mechanisms, such as training, recognition, and digital infrastructure, serve to institutionalize these norms. The structural model further demonstrates the superior explanatory power of organizational factors, predicting both KSI ($R^2 = 0.45$) and behavior ($R^2 = 0.70$). The effect size (f^2) of organizational factors on intention is moderate (0.27), substantially higher than that of technological factors (0.04) [49]. Although the direct effect of organizational factors on behavior is smaller ($f^2 = 0.10$), the cumulative influence through both direct and mediated paths remains significant [50]. In contrast, the impact of technological factors on behavior is marginal ($f^2 = 0.03$), suggesting that technological infrastructure alone is insufficient in driving KSB without organizational reinforcement. These findings are consistent with prior studies emphasizing that organizational culture

and structure exert a stronger influence on sustained KSB than do technological capabilities [51].

In collectivist societies such as Indonesia, where relational norms and deference to authority are culturally embedded, managerial interventions that leverage hierarchical mechanisms and formalized norms are particularly effective. Furthermore, these insights resonate with study in Vietnam [52], which similarly emphasize that effective knowledge sharing depends on the interplay of technological support and organizational context. Taken together, the evidence underscores that technology serves primarily as an enabler, while organizational mechanisms act as the primary driver, reinforcing the socio-technical nature of knowledge-sharing practices across diverse cultural settings.

5. MANAGERIAL IMPLICATIONS

From a managerial perspective, the findings underscore the strategic importance of organizational policies in fostering KSB behavior among professionals. The most critical implication is the cultivation of a trust-based organizational culture, which significantly influences individuals' intention to share knowledge. Policies that promote psychological safety, transparency, and mutual respect create a conducive environment for voluntary knowledge exchange. In addition, embedding knowledge-sharing expectations into standard operating procedures and performance evaluations can institutionalize collaborative behaviors and reduce resistance to KSB initiative.

Third, the implementation of structured reward systems, both intrinsic and extrinsic, can serve as effective motivational levers, especially when aligned with professional recognition and career advancement. Furthermore, empowering employees through continuous learning opportunities and autonomy enhances their absorptive capacity, which is essential for meaningful. Reducing internal competition and minimizing knowledge hoarding through inclusive, team-based policies is also crucial in fostering a supportive environment. In addition, the Integration of Collaborative Technologies (ICTs) into organizational workflows, while less influential than cultural and structural policies, remains important for enabling seamless knowledge flows and supporting hybrid or distributed work settings.

From an applied standpoint, technological infrastructure plays a vital enabling role in supporting KSB within construction consultancy firms. Among various tools, BIM emerges as one of the most critical technologies, facilitating integrated access to project data across multidisciplinary teams. BIM not only improves visualization and coordination but also acts as a repository of tacit and explicit knowledge accumulated during project cycles. Its ability to serve as a shared reference model supports real-time collaboration among architects, engineers, and project managers, enabling more informed decision-making and reducing miscommunication. Equally important are Knowledge Management Systems (KMS) that serve as centralized platforms for capturing, storing, and retrieving institutional knowledge. These systems enhance transparency and provide on-demand access to relevant documents, procedures, and historical decisions, significantly reducing information silos.

By facilitating centralized access and version control, KMS help reduce duplication of effort, improve onboarding processes for new team members, and ensure that critical lessons learned are retained and reused across projects. In recent years, collaborative digital platforms such as cloud-based document sharing (e.g., Google Drive, Microsoft SharePoint) and project management tools (e.g., Trello, Asana, or Jira) have become essential in enabling synchronous and asynchronous communication. Their integration into daily workflows supports both formal and informal knowledge exchanges, especially in hybrid or remote work settings. Gamification features integrated within learning and collaboration platforms are also gaining traction as motivational tools, fostering active engagement and voluntary knowledge contribution. Moreover, AI-powered systems such as chatbots and recommendation engines, assist users in finding relevant knowledge faster, thus reducing cognitive overload and improving the user experience.

For firms with limited resources, starting with low-cost, high-impact solutions such as WhatsApp integration or Google Drive is recommended before progressing to comprehensive systems like KMS or BIM. This phased approach minimizes financial burden and accelerates initial adoption, especially in firms operating with limited digital readiness. Nevertheless, the successful deployment of these technologies requires more than just availability. Organizations must ensure proper integration into workflows, provide adequate user training, and continuously evaluate the usability and relevance of these tools. Without such measures, even the most advanced technologies may remain underutilized. In high-context, hierarchical cultures such as Indonesia, the passive nature of technology must be complemented by strong leadership endorsement and

a knowledge-oriented culture. Therefore, while technology provides the foundation for scalable KSB, its impact is maximized only when embedded within supportive organizational routines and behaviors to achieve sustainable knowledge-sharing outcomes. From an SDG-oriented perspective, this study contributes to the discourse on digitalization and innovation, particularly in relation to SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure). By demonstrating how socio-technical conditions shape knowledge sharing in construction consulting firms, this research highlights how digital knowledge practices can enhance organizational productivity, innovation capacity, and sustainable business transformation in emerging economies.

5.1. Theoretical Implications

From a theoretical standpoint, this study contributes to the knowledge management literature by demonstrating how TPB, ISSM, and SCT can be meaningfully integrated to explain KSB in emerging economies. More importantly, it emphasizes the central role of intention as a psychological mechanism that connects socio-technical conditions and environmental stimuli to behavior. This integration provides a nuanced explanation of KSB in settings where informal structures and social relationships are pivotal, offering an alternative to models that overemphasize the direct effects of technological readiness. This reinforces the need to build intention through social and organizational means in order to drive knowledge behaviors.

5.2. Limitations and Future Research Direction

These findings should be interpreted in light of their contextual boundaries. Additionally, the use of self-reported data may introduce bias, and the cross-sectional design limits causal inferences. This study focused on consulting firms in Indonesia, where technological readiness and organizational norms vary significantly. Extrapolation to other industries or national contexts should be done cautiously, especially where differences in institutional structures, digital maturity, or cultural orientations exist.

Future research should explore the applicability of this integrative model across other knowledge-intensive industries, such as engineering design, software development, or legal consulting, where the balance between technological infrastructure and organizational culture may differ. Comparative studies across countries with varying degrees of digital maturity and cultural orientations, particularly those with low-context or individualistic norms, could reveal how intention as a mediating mechanism behaves under different environmental conditions.

Moreover, future studies could examine the moderating role of cultural communication norms, which may help explain the non-significant direct effect of technological factors on KSB observed in this study. In addition, organizational hierarchy, leadership style, or absorptive capacity could be tested as potential moderators to clarify the relative strength of technological and organizational drivers. Such investigations would provide deeper insights into how socio-technical conditions interact with psychological processes in shaping KSB across diverse institutional settings.

6. CONCLUSION

This study provides a context-specific understanding of KSB within Indonesia's construction consulting sector, an industry characterized by project-based collaboration and a strong reliance on interpersonal communication. By integrating the TPB, the ISSM, and SCT, a comprehensive framework is offered to explain how socio-technical factors shape KSB through intention. This study provides a context-specific understanding of KSB within Indonesia's construction consulting sector, an industry characterized by project-based collaboration and a strong reliance on interpersonal communication. The study's major findings highlight the importance of both technological and organizational factors in influencing KSB, with organizational factors such as shared goals and normative commitment playing a crucial role in fostering a collaborative knowledge-sharing environment.

Theoretical implications of the study suggest that integrating TPB, Information Systems Success Model (ISSM), and SCT offers a comprehensive framework for understanding the drivers of KSB, particularly in industries with low digital maturity, such as construction consultancy. The study contributes to sustainable business practices by demonstrating how the integration of digital technologies (e.g., BIM and KMS) within organizational routines enhances knowledge-sharing behavior, which is vital for improving efficiency, innovation, and competitiveness in construction projects. Furthermore, the findings underscore the role of technological innovation and constructionpreneurship in aligning with SDG 8 (Decent Work and Economic Growth), SDG 9

(Industry, Innovation, and Infrastructure), and SDG 11 (Sustainable Cities and Communities), illustrating the potential for digital tools and collaborative platforms to drive sustainable development in emerging economies, especially in industries like construction.

The findings indicate that technological factors, including system quality, information quality, and perceived usefulness, do not directly influence KSB. Instead, their influence operates entirely through the formation of intention. This suggests that while technology can enhance users' perceptions and psychological readiness, it is insufficient as a standalone driver of behavior. In contrast, organizational factors, such as normative commitment, shared goals, supportive internal policies, and perceptions of mutual benefit, exert both direct and indirect effects on KSB. These results highlight the dominant role of organizational context in fostering a culture conducive to collaboration, particularly in environments characterized by collectivist norms and informal coordination, as is typical in the Indonesian consulting industry.

7. DECLARATIONS

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7.2. Author Contributions

Conceptualization: MF; Methodology: ES; Software: AP; Validation: AS and ES; Formal Analysis: ES and MF; Investigation: RN; Resources: MF; Data Curation: AP; Writing Original Draft Preparation: MF and ES; Writing Review and Editing: AP and ER; Visualization: AP; All authors, MF, ES, RN, AS, ER, and AP, have read and agreed to the published version of the manuscript.

7.3. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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7.5. Declaration of Conflicting Interest

The authors declare that they have no conflicts of interest, known competing financial interests, or personal relationships that could have influenced the work reported in this paper.

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