IPJ Ibadan Planning Journal
Dec. 2025,
Vol.11, No. 2, 56-66

Ibadan Planning Journal

journal homepage: http://journals.ui.edu.ng/index.php/ipj/issue/view/7

Influence of Knowledge Sharing and Collaboration on Estate Surveying and Valuation Firms' Performance in Abuja, Nigeria

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Abstract

This study examined the influence of knowledge sharing and collaboration on the performance of estate surveying and valuation firms in Abuja, Nigeria. It identified the various knowledge-sharing and collaboration mechanisms used by these firms, analysed their effectiveness, and the impact on the performance outcomes of the firms. To achieve these objectives, eighty-two (82) copies of the questionnaire were distributed to estate surveying and valuation firms in the study area via Google Forms, with a response rate of 85.36%. The data collected were analysed using frequency distribution tables, weighted mean scores, and correlation analysis. Results showed that direct person-to-person knowledge sharing and formal databases were the most common and effective mechanisms for knowledge sharing. IT-based tools, such as document management systems and video conferencing tools, were widely adopted; however, collaborative platforms were underutilised. The study also found that direct person-to-person sharing and formalised knowledge management significantly improve performance outcomes ($r = 0.284$, $p = 0.017$) and ($r = 0.500$, $p < 0.001$). Brainstorming, collaborative problem-solving, and digital communication methods also have positive effects, but to a lesser degree. The use of project reviews and Scrum meetings exhibited a complex relationship with performance ($r = -0.987$, $p = 0.002$), being less effective in isolation but beneficial in structured contexts. The study recommends that estate surveying and valuation firms should leverage direct person-to-person knowledge sharing by organising regular face-to-face meetings, mentorship programmes, workshops, and brainstorming sessions to boost their performance.

Keywords
Collaboration, Influence, Knowledge sharing, Performance

Article History
Received 21 July. 2025
Accepted Oct. 2025
Published online Dec 31, 2025

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Declaration of Conflicting Interests
The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

1. Introduction

In a dynamic business landscape, the significance of knowledge sharing and collaboration within and between organisations has garnered considerable attention due to its profound impact on organisational performance and competitiveness (Al-Taheri & Al-Kashari, 2020). Knowledge is a key asset, and understanding the dynamics of knowledge sharing and collaboration is imperative for enhancing organisational effectiveness and achieving sustainable growth in the professional services sector (Wang & Noe, 2010). The estate surveying and valuation sector, which plays a crucial role in facilitating property transactions and asset management, is no exception to this trend. Estate surveying and valuation (ESV) firms play a pivotal role in the real estate sector, providing a range of services including property valuation, feasibility studies, property management, and investment analysis (Bello & Bello, 2016). Given the increasing complexity and dynamic nature of the real estate market, ESV firms rely heavily on knowledge resources, expertise, and collaboration among professionals to deliver value to clients and stakeholders, gain a competitive edge, and improve their overall performance (Oletubo et.al., 2023).

Knowledge sharing encompasses the process through which individuals exchange, disseminate, and utilise information, expertise, and experiences intra and inter organisations. In the context of ESV firms, knowledge sharing plays a vital role in enhancing decision-making, problem-solving, and innovation, as Estate Surveyors and Valuers rely on shared information in professional practice. Collaboration refers to the cooperative effort among individuals or groups to achieve shared goals or objectives.

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In estate surveying and valuation firms, collaboration occurs at various levels, including intra-team collaboration among colleagues, interdepartmental collaboration within the organisation, and collaboration with external stakeholders such as clients, government agencies, and other industry players. Collaboration is inherent to the nature of work in Estate Surveying and Valuation firms, as professionals often collaborate on projects involving property valuation, market analysis, and feasibility studies. (Marcelino-Sádaba, Pérez-Ezcurdia, Lazcano, & Villanueva, 2014). Successful collaboration relies on effective communication, trust, and shared understanding among team members (Cummings, 2004). However, traditional collaboration methods, such as face-to-face meetings and e-mail exchanges, may pose challenges in terms of efficiency, accessibility, and scalability, particularly in geographically dispersed firms.

In contemporary business environments, knowledge sharing and collaboration have emerged as pivotal factors influencing organisational performance across various industries. Within the context of estate surveying and valuation firms, where knowledge capital and expertise play a critical role in decision-making and service delivery, understanding the dynamics of knowledge sharing and collaboration is imperative. The investigation into the diverse knowledge-sharing and collaboration mechanisms within estate surveying and valuation firms necessitates an examination of both formal and informal avenues used by professionals in the field. Formal mechanisms may include structured training programmes, knowledge repositories, and interdisciplinary team collaborations, while informal mechanisms could encompass peer networks, communities of practice, and mentorship relationships (Cabrera & Cabrera, 2002; Wanberg et al., 2017). The choice of knowledge sharing mechanisms reflects whether an organisation chooses to follow a codification or personalisation strategy, or a combination of both strategies for knowledge management (Chai, 2009). Wanberg et al. (2015) and Kaplan (2021) emphasise the significance of various mechanisms such as communities of practice, mentorship programmes, and digital platforms in facilitating knowledge exchange among professionals in similar domains. However, the specific mechanisms adopted by estate surveying and valuation firms in the study area remained unexplored in the literature.

The motive behind the widespread adoption of knowledge-sharing and collaboration within organisations includes, but is not limited to elimination of space and time limitations, the creation of tacit instructions, and the provision of simple interfaces that allow even end-users to share and interact (Alshahrani & Rasmussen Pennington, 2018). The progress of Estate Surveying and Valuation firms in today's real estate industry also depends on how knowledge is captured from every component of the real estate industry and turned into processed and analysed information to be disseminated and used for the firm's benefit and the industry overall (Samuells, 2011). This process, known as knowledge management, encompasses numerous benefits; however, several Estate Surveying and Valuation firms remain unaware of these benefits. The lack of awareness of knowledge management benefits to the real estate firms has been a major bottleneck to the implementation of knowledge-sharing and collaboration practices within the real estate industry (Ahmad, Abdul, Siti, & Nur, 2015). There is no doubt that numerous benefits are provided by the practice of knowledge management within organisations. Despite this, the level of awareness of these benefits among real estate organisations remains underweight, poor, and inadequate relative to the expected benefits of knowledge management (Nzongi, 2018).

Based on the above, the motivation for this study arises from the urgent need to understand how knowledge sharing and collaboration influence professional practice, organisational dynamics, and industry development, as well as to enhance knowledge management within the field of Estate Surveying and Valuation. These considerations shaped the focus of this study, which examined the influence of knowledge sharing and collaboration on the performance of estate surveying and valuation firms in Abuja, Nigeria.

2. Literature Review

2.1 Concept of Knowledge-Sharing and Collaboration

In the concept of knowledge management, knowledge sharing refers to the voluntary provision of one's knowledge to others, while collaboration refers to joint effort and mutual engagement among individuals or groups to achieve common goals. Knowledge-sharing and collaboration are pivotal aspects of organisational success and innovation in today's knowledge-driven economy, facilitated by

knowledge management systems that often focus on individual and team contributions (Wang & Noe, 2010; King, 2011). Knowledge-sharing refers to the dissemination of explicit or tacit knowledge within an organisation, while collaboration involves joint efforts to achieve shared goals through coordinated actions (Bock et al., 2005). These processes facilitate the transfer of information, expertise, and skills among individuals and teams, thereby fostering a culture of continuous learning and improvement.

Knowledge-sharing encompasses various mechanisms, including formal training programmes, informal discussions, and digital platforms (Oanţă, 2020). Social interaction plays a crucial role in facilitating the exchange of tacit knowledge (Amidi et al., 2017), which is deeply rooted in personal experiences and insights, as organisations often employ knowledge management systems to codify and disseminate explicit knowledge, making it accessible to employees across different departments and locations (Selvi et al., 2009). Knowledge-sharing and collaboration are essential for leveraging the collective intelligence of an organisation and avoiding knowledge silos that hinder productivity and innovation (Husted & Michailova, 2018). Organisations with effective knowledge-sharing practices are better equipped to adapt to changes, make informed decisions, and maintain competitive advantages in dynamic environments (Marešová, 2012; Harri, 2021). Therefore, organisations need to create a culture that encourages knowledge-sharing and collaboration.

2.2 Knowledge-Sharing and Collaboration Mechanisms

Knowledge management is the process of capturing, sharing, developing, and using knowledge efficiently. Knowledge sharing, as one of the important components of the knowledge management system, involves individuals, teams, and organisations sharing knowledge with other members through various activities. A project team is a group of members from different departments who are assigned to work together on a single project, facilitating knowledge sharing among team members. Boh (2007) introduced a comprehensive framework that categorises knowledge-sharing mechanisms within project-based organisations into two dimensions: personalisation versus codification, and individualisation versus institutionalisation. Personalisation focuses on tacit knowledge, closely linked to the individual who possesses it, and emphasises direct person-to-person sharing. In contrast, codification involves the formalisation of knowledge into databases or documents, facilitating its storage, retrieval, and reuse across the organisation. Individualised mechanisms are characterised by their informal and unstructured nature, supporting knowledge sharing primarily at an individual level. These mechanisms often leverage personal networks and are tailored to the needs of individual employees or small groups. On the other hand, institutionalised mechanisms are formal and structured, integrated into organisational routines and structures, and designed to promote collective knowledge sharing across the organisation. Boh (2007) emphasises that effective knowledge sharing and retention do not necessarily require the codification of every individual employee's knowledge. Instead, a crucial strategy involves diffusing knowledge among employees and promoting its sharing within the organization. By institutionalising personalisation-based knowledge-sharing mechanisms, organisations can systematise person-to-person knowledge sharing, ensuring it is not left to chance but becomes an integral part of their organisational processes.

Similarly, Jafari Navimipour and Charband (2016) conducted a comprehensive overview of sharing mechanisms in project teams. The study revealed that knowledge-sharing mechanisms in project teams include formal mechanisms, informal practices, and the use of simulation scenarios for evaluation. These mechanisms are essential for reducing costs and increasing performance in project teams.

Several mechanisms for knowledge sharing have been identified in the literature. Van Waveren et al. (2017) conducted an extensive literature review, identifying 59 individual knowledge-sharing and collaboration mechanisms (KSMs) and clustering them into five classes with specific characteristics. According to Van Waveren et al. (2017), the five clusters of KSMs that project practitioners could use are identified as (1) the formal codification landscape – dealing with the formal capturing of knowledge in a methodological way, (2) the training and coaching landscape – with knowledge mechanisms directed towards a formal learning approach between projects, (3) the person-to-person landscape – that is, people-to-people and team-based communication, (4) the inter-organizational

networking landscape – networks of communications between teams within and across a range of organizations and (5) the intra-organizational communal landscape – informal/semi-formal reading, social connection, interaction and discussion within an organization.

Berends et al. (2006) identified brainstorming and collaborative problem-solving as the prevalent knowledge-sharing mechanisms in industrial research. Wickramasinghe and Widyaratne (2012) investigated the effects of interpersonal trust, team leader support, rewards, and knowledge-sharing mechanisms on voluntary knowledge sharing in software development project teams in Sri Lanka. The study found that storytelling, training, informal chatting, and meetings were proven to be the most effective KSMs.

Kashif and Kelly (2013) analysed the management and sharing of knowledge within a project team at Ericsson, revealing that knowledge is managed and shared by the team in different stages, from capture to storage, creation, distribution, presentation, and validation, ultimately leading to sharing. Kashif and Kelly (2013) found that KSMs employed by the Ericsson team include project review meetings, workshops, Scrum meetings, microarticles, audio files, and the practice of pair programming.

Dehghani (2019) examined how knowledge is shared from a participant's perspective within collaborative projects in university-industry collaborations in Australian IT-related faculties. The findings showed that, based on the continuum of tacit and explicit knowledge, the five knowledge-sharing mechanisms adopted in this socio-technical collaborative project include reactive, articulate, sequential, accumulate, and transfer.

It is noteworthy to know that these KSMs can be supplemented with and facilitated by the use of IT-based tools and techniques: e-mail, phone, intranet, audio conference, instant (text) message, web-based (video) conference, groupware or group collaboration software, pagers, wiki or blog (Lee-Partridge & Snyder, 2012; Bagatto, 2023). Platforms like Microsoft Teams and Slack have gained popularity in recent years, offering a range of features to facilitate collaboration, including chat, file sharing, and video conferencing (Ilag, 2020).

3. Methodology

A quantitative research methodology was used in the study. It focused on a field survey among members of Abuja-based estate surveying and valuation firms, which are properly registered with the Nigerian Institution of Estate Surveyors and Valuers (NIESV), Abuja chapter, and the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON). The most senior estate surveyor and valuer from each firm was represented. A structured questionnaire was designed to gather information about respondents' opinions on various knowledge-sharing and collaboration mechanisms and their impact on the performance of estate surveying and valuation firms. This questionnaire was used to collect data from the respondents. The questionnaire was completed by 70 (85.36.6%) of the eighty-two (82) sampled estate surveying and valuation firms. The retrieval rate indicates a high degree of responsiveness, providing a solid foundation for further research. Frequency distribution table, weighted mean score, and correlation analysis were used to analyse the data provided by the respondents.

4. Data Analysis and Discussion of Results

This section of the study presents the analysis of data collected through copies of the questionnaire administered to estate surveying and valuation firms in Abuja, Nigeria, along with a discussion of the results. It identified the diverse knowledge-sharing and collaboration mechanisms used by estate surveying and valuation firms in Abuja, as well as the effectiveness of the knowledge-sharing and collaboration tools used within their organisations. The study also examined the impact of the identified diverse knowledge sharing and collaboration mechanisms on the performance of estate surveying and valuation firms in the study area.

4.1 Knowledge-sharing and Collaboration Mechanisms Used by Estate Surveying and Valuation Firms in Abuja

To identify the diverse knowledge-sharing and collaboration mechanisms used by the estate surveying and valuation firms in Abuja, respondent estate surveying and valuation firms were asked to indicate which knowledge-sharing mechanisms are used at their firms, the extent of their usage, and also rate the effectiveness of the knowledge-sharing and collaboration tools used at their organisations. The results were analysed using frequency distribution and weighted mean score analysis, and the findings are presented in Tables 1, 2, and 3.

Table 1: Diverse Knowledge-sharing and Collaboration Mechanisms Used by Estate Surveying and Valuation Firms in Abuja, Nigeria

Knowledge-sharing and collaboration mechanisms		Frequency	%
Direct person-to-person knowledge sharing	Not used	5	7.1
	Used	65	92.9
	Total	**70**	**100**
Use of formal databases or documents for knowledge storage and retrieval	Not used	2	2.9
	Used	68	97.1
	Total	**70**	**100**
Engagement in informal knowledge-sharing activities tailored to individuals or small groups	Not used	20	28.6
	Used	50	71.4
	Total	**70**	**100**
Structured and formal mechanisms for promoting collective knowledge-sharing	Not used	16	22.9
	Used	54	77.1
	Total	**70**	**100**
Formal training sessions or coaching for knowledge-sharing	Not used	8	11.4
	Used	62	88.6
	Total	**70**	**100**
Project review meetings or workshops for knowledge-sharing	Not used	23	32.9
	Used	47	67.1
	Total	**70**	**100**
Use of storytelling or informal chatting for knowledge-sharing	Not used	10	14.3
	Used	60	85.7
	Total	**70**	**100**
Regular brainstorming sessions or collaborative problem-solving approaches.	Not used	9	12.9
	Used	61	87.1
	Total	**70**	**100**
Utilisation frequency of IT-based tools for knowledge sharing.	Rarely	30	42.9
	Very frequently	40	57.1
	Total	**70**	**100**

Source: Field Survey, 2024

The mechanisms employed by estate surveying and valuation firms for knowledge-sharing and collaboration in Abuja vary, as shown in Table 1. The most common method is direct person-to-person knowledge sharing, with 92.9% of professionals participating, while 7.1% do not. This demonstrates a strong preference for direct communication within the profession. Additionally, the use of formal databases or documents for storing and retrieving knowledge is also common, with 97.1% of respondents indicating they use these tools, while only 2.9% do not. This highlights the importance placed on formal and organised knowledge management methods in the industry. Besides these formal ways, engagement in informal knowledge-sharing activities tailored to individuals or small groups is also notable, with 71.4% of professionals taking part compared to 28.6% who do not. This underlines the significance of both formal and informal approaches to knowledge sharing among these professionals.

Structured and formal mechanisms for promoting collective knowledge-sharing are used by 77.1% of respondents, whereas 22.9% do not participate in these practices. This indicates a significant preference for organised group knowledge-sharing initiatives. Formal training sessions or coaching for knowledge sharing are also prevalent, with 88.6% of professionals participating. Only 11.4% do not participate in such sessions, highlighting the importance of ongoing professional development. Project review meetings or workshops are similarly common, with 67.1% of attendees seeking knowledge sharing, while 32.9% do not. This reflects a balanced approach to using both formal reviews and workshops to facilitate knowledge exchange. Storytelling or informal chatting is utilised by 85.7% of the professionals as a means of knowledge sharing, compared to 14.3% who do not engage in these informal methods. This suggests the effectiveness of narrative techniques in disseminating knowledge within the profession. Regular brainstorming sessions or collaborative problem-solving approaches are employed by 87.1% of the respondents, with only 12.9% abstaining. This reflects the profession's reliance on collaborative and innovative methods for problem-solving and idea generation. Finally, the use of IT-based tools for

knowledge sharing varies, with 57.1% of the professionals using these tools very frequently, while 42.9% use them rarely. This suggests a growing but not yet universal adoption of IT tools for knowledge management in estate surveying and valuation.

The above results reveal a comprehensive approach to knowledge-sharing and collaboration among estate surveying and valuation professionals, combining direct communication, formal databases, training sessions, project reviews, informal chats, and IT tools to create a robust knowledge management environment. The predominant use of direct person-to-person knowledge-sharing and formal databases corresponds with the emphasis on personalisation and codification in Boh's (2007) framework, as well as Van Waveren et al.'s (2017) formal codification landscape. The significant engagement in informal knowledge-sharing activities and storytelling aligns with Amidi et al. (2017) and Wickramasinghe and Widyaratne (2012), who highlight the importance of social interaction and informal methods. The high participation in formal training sessions and project review meetings reflects the structured mechanisms discussed by Jafari Navimipour and Charband (2016) and Kashif and Kelly (2013). The mixed use of IT-based tools indicates an evolving but not yet universal adoption, consistent with the observations of Lee-Partridge and Snyder (2012) and Ilag (2020).

Table 2: Usage Level of Various Methods for Collaboration and Knowledge-sharing

Usage level of various methods for Collaboration and Knowledge-sharing	Mean	Std. Dev	Rank
Formalisation of knowledge into databases or documents for storage, retrieval, and reuse	4.27	0.612	1st
Direct person-to-person sharing	4.24	0.806	2nd
People-to-people and team-based communication	4.1	0.684	3rd
Brainstorming and collaborative problem-solving	3.97	0.868	4th
Project review meetings and scrum meetings	3.81	0.822	5th
E-mail, Phone, Instant (text) message	3.69	0.894	6th
Informal/semi-formal reading, social connection, interaction/meetings, and discussion	3.61	0.822	7th
Web-based (video) conference/Meetings	3.57	1.098	8th
Audio Conference	3.57	1.057	9th
File Sharing Services (Dropbox, Google Drive)	3.56	0.911	10th
Training and coaching sessions between projects	3.3	0.89	11th
Workshops	3.14	0.967	12th
Group collaboration software, e.g., Slack and Microsoft Teams	2.89	1.149	13th

Source: Field Survey, 2024

The weighted mean score analysis from Table 2 indicates a clear preference for formalised knowledge-sharing methods, with Formalisation of knowledge into databases or documents for storage, retrieval, and reuse achieving the highest mean score of 4.27, thereby ranking first. This suggests a strong emphasis on creating and maintaining comprehensive databases or documents that facilitate easy storage, retrieval, and reuse of knowledge. Following closely, Direct person-to-person sharing holds a mean score of 4.24, ranking second. This underscores the importance of direct interpersonal communication in effective knowledge-sharing practices. Complementing this, People-to-people and team-based communication ranked third with a mean score of 4.1, reflecting a significant reliance on collaborative interactions among individuals and teams.

Brainstorming and collaborative problem-solving ranked fourth with a mean score of 3.97. This indicates that such interactive sessions are highly valued for fostering innovative solutions and collective problem-solving. Subsequently, Project review meetings and scrum meetings, with a mean score of 3.81, ranked fifth, highlight their critical role in regularly assessing and guiding project progress. On the other hand, traditional communication methods such as Email, Phone, and Instant (text) messages have a mean score of 3.69, ranking sixth, indicating their continued relevance despite the advent of newer technologies. Slightly lower, Informal/semi-formal reading, social connection, interaction/meetings, and discussion ranked seventh with a mean score of 3.61, emphasising the value of more casual and flexible communication channels.

Web-based (video) conferences and Meetings, as well as Audio conferences, share a mean score of 3.57, ranking eighth and ninth, respectively. These methods are integral to remote communication, particularly in teams that are geographically dispersed. Close behind, File Sharing Services

(Dropbox, Google Drive) ranked tenth with a mean score of 3.56, reflecting their utility in facilitating easy access and sharing of documents. Training and coaching sessions between projects, with a mean score of 3.3, ranked eleventh. This points to the recognised but limited role of formal training in continuous knowledge improvement and skill development. Workshops, scoring a mean of 3.14, ranked twelfth. This indicates an average level of usage, potentially due to their more formal and structured nature, which may not always align with the dynamic needs of knowledge sharing. Lastly, group collaboration software such as Slack and Microsoft Teams, with a mean score of 2.89, ranked thirteenth. This suggests that while these digital platforms are beneficial, they are less preferred compared to more direct and personal methods of communication and collaboration among estate surveying and valuation professionals.

The data highlights a strong preference for structured and direct communication methods for collaboration and knowledge-sharing, with physical databases and direct person-to-person interactions being the most favoured among estate surveying and valuation professionals. This trend highlights the significance of personal interactions and direct communication in professional settings. Meanwhile, less formal methods and newer collaborative technologies (electronic and web-based methods) are ranked lower, suggesting areas for potential improvement or increased integration within estate surveying and valuation firms' knowledge-sharing and collaboration practices.

The findings from the weighted mean score analysis align closely with the existing literature on knowledge sharing and collaboration. The strong preference for formalised methods, such as formalisation into databases and direct person-to-person interactions, is consistent with Boh's (2007) framework, which emphasises the distinction between codification and personalisation in knowledge-sharing mechanisms. The high ranking of formal databases for knowledge storage and retrieval supports the idea that codification enhances knowledge accessibility across the organisation. Additionally, the significant value placed on direct person-to-person sharing and team-based communication mirrors the emphasis on personalised, tacit knowledge exchange as highlighted by Van Waveren et al. (2017). Mechanisms like brainstorming, project review meetings, and scrum meetings are also supported by Berends et al. (2006) and Kashif and Kelly (2013), who identify these practices as vital for fostering innovation and maintaining project momentum. Meanwhile, the continued relevance of traditional methods such as email and phone, alongside the lower preference for newer technologies like group collaboration software, reflects the nuanced integration of both formal and informal communication channels in professional settings (Jameson et al., 2023) This synthesis underscores a robust framework for enhancing knowledge-sharing practices within estate surveying and valuation, advocating for a balanced approach that leverages both traditional and contemporary mechanisms.

Table 3: Effectiveness of Knowledge-sharing and Collaboration Tools by Estate Surveying and Valuation Firms

Effectiveness of Knowledge-sharing and Collaboration Tools	Mean	Std. Dev	Rank
Direct person-to-person sharing	4.21	0.832	1st
E-mail, Phone, Instant (text) message	4.1	0.705	2nd
Brainstorming and collaborative problem-solving	4	0.834	3rd
Formalisation of knowledge into databases or documents for storage, retrieval, and reuse	3.99	0.86	4th
Project review meetings and scrum meetings	3.89	1.136	5th
People-to-people and team-based communication	3.87	1.006	6th
Workshops	3.76	0.824	7th
Informal/semi-formal reading, social connection, interaction/meetings, and discussion	3.71	0.965	8th
Web-based (video) conference/Meetings	3.5	0.881	9th
Training and coaching sessions between projects	3.43	1.292	10th
Audio Conference	3.39	1.386	11th
File Sharing Services (Dropbox, Google Drive)	3.01	1.291	12th
Group collaboration software, e.g., Slack and Microsoft Teams	2.93	0.906	13th

Source: Field Survey, 2024

The effectiveness of various knowledge-sharing and collaboration tools was evaluated in Table 3, revealing significant insights into their use within estate surveying and valuation contexts. Firstly, direct person-to-person sharing emerged as the most effective tool, with a mean effectiveness score of 4.21, ranking first. This indicates that direct, face-to-face interactions are highly valued for their ability to facilitate immediate and clear communication, thereby enhancing knowledge transfer and collaboration efficiency. Following closely, the use of e-mail, phone, and instant messaging ranked second, with a mean score of 4.1. These tools offer a blend of convenience and immediacy, allowing team members to share information quickly across different locations, which complements the effectiveness of person-to-person interactions.

Brainstorming and collaborative problem-solving sessions were rated third, with a mean score of 4. This highlights their critical role in fostering creativity and collective intelligence, enabling teams to generate innovative solutions through shared insights and collaborative efforts. Formalisation of knowledge into databases or documents for storage, retrieval, and reuse was slightly less effective, with a mean score of 3.99, placing it in fourth position. Although structured documentation is essential for preserving organisational knowledge, it appears slightly less effective than interactive communication methods in the immediate sharing of knowledge. Project review meetings and scrum meetings received a mean score of 3.89, ranking fifth. These regular, structured meetings are crucial for tracking progress and resolving issues in real-time, ensuring that all team members are aligned and informed. People-to-people and team-based communication, with a mean score of 3.87, ranked sixth. This suggests that while direct interpersonal communication is highly effective, broader team interactions also play a crucial role in disseminating knowledge and fostering collaboration. Workshops, scoring 3.76 and ranked seventh, provide focused environments for intensive learning and collaboration, though they may not be as effective as more immediate or frequent communication methods.

Informal and semi-formal interactions, such as social connections and discussions, ranked eighth with a mean score of 3.71. These methods facilitate knowledge sharing in a more relaxed and spontaneous manner, thereby enhancing team cohesion and informal knowledge exchange. Web-based video conferences and meetings, with a mean score of 3.5, ranked ninth. While useful for remote collaboration, they may lack the immediacy and personal touch of direct person-to-person interactions.

Training and coaching sessions between projects were rated tenth, with a mean score of 3.43. These sessions are valuable for skill development and knowledge transfer, but may be less effective for sharing immediate, project-specific knowledge. Audio conferences, scoring 3.39 and ranked eleventh, suggest that while useful, they are less effective than visual and face-to-face methods, potentially due to the lack of visual cues and personal interaction. File-sharing services, such as Dropbox and Google Drive, received a mean score of 3.01, ranking twelfth. These tools are essential for document sharing and collaboration, but may not significantly enhance direct knowledge transfer. Lastly, group collaboration software, such as Slack and Microsoft Teams, with a mean score of 2.93, ranked thirteenth. Despite their widespread use, they may not be perceived as effective as more direct or formalised methods of knowledge sharing and collaboration among estate surveying and valuation professionals.

The findings above highlight the superior effectiveness of direct person-to-person interactions and immediate communication tools, such as email and instant messaging. In contrast, more formalised and asynchronous tools, while still valuable, are perceived as less effective in fostering real-time knowledge sharing and collaboration. The findings align with the literature review, which emphasises the importance of knowledge-sharing and collaboration mechanisms within organisations. Direct person-to-person sharing, rated most effective in the findings, corroborates the significance of personalisation and direct interactions highlighted by Boh (2007). Similarly, the effectiveness of email, phone, and instant messaging aligns with the utility of IT-based tools for facilitating communication, as noted by Lee-Partridge and Snyder (2012). The high ranking of brainstorming and collaborative problem-solving sessions is consistent with Berends et al. (2006), who identified these methods as prevalent KSMs in industrial research. The slightly lower effectiveness

of formalised knowledge in databases ranked fourth, reflecting the balance between personalisation and codification discussed by Boh (2007). Overall, the findings reflect that effective knowledge-sharing mechanisms can integrate both direct personal interactions and IT-based tools to enhance organisational learning and collaboration.

4.2 Effect of Knowledge-Sharing Mechanisms on the Performance Outcomes of Estate Surveying and Valuation Firms

To assess the effect of knowledge-sharing mechanisms on the performance outcomes of estate surveying and valuation firms in the study area, respondent estate surveying and valuation firms were asked to indicate the extent to which several knowledge-sharing mechanisms had been effective in improving performance outcomes in their firms. The data, which was elicited on a 5-point Likert scale, where 1 represents 'poor performance'; 2 represents 'low performance'; 3 represents 'fair performance', 4 represents 'good performance', and 5 represents 'great performance', was subjected to Spearman's correlation analysis. The results are presented in Table 4.

Table 4: Correlation of Knowledge-Sharing Mechanisms on the Performance Outcomes of Estate Surveying and Valuation Firms

			Correlations of					
			PO	**DPPS**	**FKDD**	**BCPS**	**EPIM**	**PRMS**
Spearman's rho	**PO**	Correlation Coefficient	1	.284*	.357**	0.208	0.096	-0.173
		Sig. (2-tailed)	.	0.017	0.002	0.084	0.431	0.151
		N	70	70	70	70	70	70
	DPPS	Correlation Coefficient	.284*	1	.500**	.342**	.262*	0.157
		Sig. (2-tailed)	0.017	.	<0.01	0.004	0.029	0.193
		N	70	70	70	70	70	70
	FKDD	Correlation Coefficient	.357**	.500**	1	0.151	0.178	0.182
		Sig. (2-tailed)	0.002	<0.01	.	0.211	0.141	0.131
		N	70	70	70	70	70	70
	BCPS	Correlation Coefficient	0.208	.342**	0.151	1	.537**	.759**
		Sig. (2-tailed)	0.084	0.004	0.211	.	<0.01	<0.01
		N	70	70	70	70	70	70
	EPIM	Correlation Coefficient	0.096	.262*	0.178	.537**	1	.272*
		Sig. (2-tailed)	0.431	0.029	0.141	<0.01	.	0.023
		N	70	70	70	70	70	70
	PRMS	Correlation Coefficient	-0.173	0.157	0.182	.759**	.272*	1
		Sig. (2-tailed)	0.151	0.193	0.131	<0.01	0.023	.
		N	70	70	70	70	70	70

Source: Field Survey, 2024

Table 4 presents Spearman's rho correlations between various knowledge-sharing and communication methods and performance outcomes. According to the table, a positive correlation exists between direct person-to-person sharing and performance outcomes ($r = 0.284$, $p = 0.017$), suggesting that as direct person-to-person sharing increases, performance outcomes also tend to improve. This relationship is statistically significant at the 0.05 level. Additionally, direct person-to-person sharing is strongly correlated with the formalisation of knowledge ($r = 0.500$, $p < 0.001$), moderately correlated with brainstorming ($r = 0.342$, $p = 0.004$), and positively correlated with email, phone, and instant messaging ($r = 0.262$, $p = 0.029$). However, its correlation with project review meetings is positive but not statistically significant ($r = 0.157$, $p = 0.193$).

Moreover, the formalisation of knowledge into databases is moderately positively correlated with performance outcomes ($r = 0.357$, $p = 0.002$), suggesting that better formalisation of knowledge is associated with improved performance outcomes, which is statistically significant at the 0.01 level. This method also exhibits a strong positive correlation with direct person-to-person sharing ($r = 0.500$, $p < 0.001$) and weak, albeit non-statistically significant, positive correlations with brainstorming

(r = 0.151, p = 0.211), email, phone, and instant messaging (r = 0.178, p = 0.141), and project review meetings (r = 0.182, p = 0.131).

On the other hand, brainstorming and collaborative problem-solving exhibit a weak positive correlation with performance outcomes (r = 0.208, p = 0.084), which is not statistically significant. However, brainstorming has a moderate positive correlation with direct person-to-person sharing (r = 0.342, p = 0.004) and strong positive correlations with email, phone, and instant messaging (r = 0.537, p < 0.001), as well as project review meetings (r = 0.759, p < 0.001). Similarly, e-mail, phone, and instant messaging have a weak positive correlation with performance outcomes (r = 0.096, p = 0.431), which is not statistically significant. Nonetheless, these methods show a positive correlation with direct person-to-person sharing (r = 0.262, p = 0.029) and strong positive correlations with brainstorming (r = 0.537, p < 0.001) and moderate positive correlations with project review meetings (r = 0.272, p = 0.023).

Finally, project review meetings and scrum meetings exhibit a weak negative correlation with performance outcomes (r = -0.173, p = 0.151), suggesting that these meetings may not contribute positively to performance improvement in this context, although this correlation is not statistically significant. These meetings show positive but not statistically significant correlations with direct person-to-person sharing (r=0.157, *p*=0.193p = 0.193p=0.193), formalisation of knowledge (r=0.182, *p*=0.131), and strong positive correlations with brainstorming (r=0.759, *p*<0.001) and moderate positive correlation with e-mail, phone, and instant messaging (r=0.272, *p*=0.023).

The correlation results indicate that direct person-to-person sharing and formalisation of knowledge into databases are significantly correlated with improved performance outcomes. While brainstorming, collaborative problem-solving, and using e-mail, phone, and instant messaging show some positive correlations with performance, these are not as strongly linked to performance outcomes. Project reviews and Scrum meetings have a weak negative correlation with performance outcomes, suggesting they may not contribute positively to performance improvement in this context. However, these methods are positively correlated with each other, indicating that they are often used in conjunction.

5. Conclusion and Recommendations

The study examined the influence of knowledge sharing and collaboration on the performance of estate surveying and valuation firms in Abuja, Nigeria. The study revealed that direct person-to-person knowledge sharing and formal databases are the most common and effective mechanisms used by estate surveying and valuation firms in Abuja, Nigeria. IT-based tools, such as document management systems and video conferencing tools, are widely adopted, although collaborative platforms are underutilised. The study further revealed that direct person-to-person sharing and formalised knowledge management significantly enhance performance outcomes. Brainstorming, collaborative problem-solving, and digital communication methods also contribute positively, albeit to a lesser extent. The use of project reviews and Scrum meetings reveals a complex relationship with performance, being less effective individually but beneficial in structured environments.

In light of the findings above, the Nigerian Institution of Estate Surveyors and Valuers should educate and further train its members on the use of knowledge-sharing and collaboration mechanisms in their daily activities, ensuring they remain current with their colleagues worldwide. This will improve the performance of the estate surveying and valuation firms in the real estate market.

Estate surveying and valuation firms should continue to encourage direct person-to-person knowledge exchange through mentorship, peer learning, and regular team interactions. This builds trust and ensures knowledge is transferred effectively across different experience levels. Furthermore, the Nigerian Institution of Estate Surveyors and Valuers should collaborate with the Departments of Estate Management at higher educational institutions on research regarding knowledge sharing and collaboration mechanisms in real estate practice.

Despite the relevance and timeliness of this research, the study employed a relatively small sample size, which may not adequately represent the entire Nigerian real estate ecosystem.

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