DEVELOPING A KNOWLEDGE VALUE CHAIN FRAMEWORK FOR TENDERING IN SRI LANKAN CONSTRUCTION ORGANIZATIONS

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ABSTRACT

The construction industry in Sri Lanka, like many in developing nations, faces persistent inefficiencies in tendering processes due to fragmented knowledge practices and inadequate knowledge management systems. This study presents the preliminary findings of a broader research project aimed at developing an advanced Knowledge Value Chain Management (KVCM) framework to address these challenges. Drawing on both theoretical underpinnings and empirical insights, the research critiques the limitations of existing tendering models for the purpose of developing a KVCM framework to structure, process, and leverage organizational knowledge. Preliminary insights suggest that successful integration of the KVC approach requires not only process-level adjustments but also a cultural and infrastructural shift toward strategic knowledge sharing and ICT-enabled systems. This paper forms part of an ongoing research initiative that culminates in the formulation of a comprehensive, context-sensitive KVCM model for the Sri Lankan construction sector. By bridging knowledge management principles with tendering strategy, this study contributes to the emerging discourse on knowledge-based competitiveness in project-driven industries. It underscores the strategic potential of KVC integration to foster institutional memory, improve tendering efficiency, and support sustainable organizational learning in developing construction markets. This contribution advances the discourse on knowledge management in project-based industries and underscores the strategic role of knowledge as an asset in competitive tendering environments.

Keywords: Knowledge Value Chain Management; Quantity Surveyors'; Construction; Sri Lanka; Tendering.

1.   INTRODUCTION

Knowledge Management (KM) has evolved as a critical discipline within organizational theory, particularly since the 1990s, emphasizing the strategic role of knowledge as a core asset for competitive advantage (Nonaka & Takeuchi, 2023). In construction, where

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projects are unique and temporally bound, KM is especially important for capturing, codifying, and transferring valuable project knowledge to enhance future project outcomes. The development of Knowledge Value Chain Models (KVCMs), such as those building on Porter's foundational Value Chain framework (Porter, 2008), has further advanced the structured management of knowledge. Many studies (De Bem Machado et al., 2022; Di Vaio et al., 2021; Gallupe, 2001) have investigated the concepts of knowledge, KM, and KVCMs from an organizational perspective. KVCMs in construction are tailored frameworks that map the flow of knowledge across project stages, ensuring that valuable insights gained are not only retained but systematically used to optimize performance and improve tendering processes (Baia et al., 2020). However, existing KVCMs are generally designed with a broad organizational focus, leaving a gap in literature regarding their application to the specific knowledge value creation within the tendering process of construction organizations, particularly in relation to quantity surveying.

The construction industry, particularly in developing economies such as Sri Lanka, is knowledge-intensive and increasingly reliant on the effective mobilization of intellectual capital for competitive advantage. Among key professionals, Quantity Surveyors (QSs) play a central role in cost control, tender evaluation, and contract administration, functions that depend heavily on the systematic creation, sharing, and utilization of knowledge. As construction projects become more complex and time-bound, the ability to manage this knowledge efficiently across the tendering phase has become critical. This shift underscores the growing relevance of KVCM frameworks which aim to optimize knowledge flows to enhance organizational performance and strategic positioning. Globally, research has demonstrated the utility of KVCM in refining construction processes, particularly tendering, through structured knowledge governance. Dewagoda et al. (2021) proposed a KVCM framework explicitly for contractor organizations, emphasizing how knowledge processes can increase the probability of winning tenders and improve decision-making efficacy. However, such frameworks are typically conceptualized in broader corporate or regional contexts, with minimal focus on the nuanced operational roles played by QSs in emerging economies.

In the Sri Lankan context, knowledge management among QSs has largely been limited to ad hoc practices. Senaratne and Sabesan (2010) found that while QSs in Sri Lanka are competent in applying experiential knowledge, systemic barriers such as poor institutional support, time constraints, and limited professional recognition hinder knowledge acquisition and dissemination. Moreover, existing research have not addressed how structural and cultural constraints unique to Sri Lanka impede the implementation of formal KVCM approaches during tendering. While Perera and Gunatilake (2022) discussed the broader inefficiencies in Sri Lanka's construction value chains, their work did not explore tendering-specific dynamics or the QS's knowledge role therein.

This paper aims to explore the preliminary conditions necessary for the development of a Knowledge Value Chain Management framework tailored to the tendering processes of Sri Lankan construction organizations. As a foundational phase of a broader research project, the study seeks to critically examine current knowledge practices, identify barriers to effective knowledge management, and assess the applicability of existing KVC models within the local tendering context. Specifically, the objectives are: (1) to investigate how knowledge is created, shared, and utilized by Quantity Surveyors and

other professionals during tendering; (2) to evaluate the strategic role of knowledge in achieving competitive advantage in construction tendering; and (3) to identify structural, cultural, and operational constraints that influence the integration of KVC principles in practice. These insights serve as the empirical and conceptual groundwork for the subsequent development of a comprehensive, context-sensitive KVCM framework aimed at enhancing organizational learning and decision-making in Sri Lanka's construction sector.

2. LITERATURE REVIEW

2.1 EVOLUTION OF KM IN CONSTRUCTION

KM has evolved through three distinct generations, reflecting a shift from information-centric systems to strategic, value-driven frameworks. In the first generation, KM was primarily technical, focusing on the codification and storage of explicit knowledge through databases and intranets. However, this approach inadequately addressed the tacit, experience-based knowledge crucial in project-based industries like construction (Rezgui et al., 2010). The second-generation approaches emphasized social interaction and knowledge sharing, introducing mechanisms such as communities of practice and mentoring. In construction, this generation aligned more closely with the industry's collaborative nature, where cross-functional teams must exchange expertise across fragmented project cycles (Anumba & Pulsifer, 2010). The third generation of KM focuses on strategic alignment and value creation, positioning knowledge as a dynamic capability rather than a static resource. It integrates KM into innovation, performance improvement, and organizational competitiveness, critical in today's complex construction environments (Chen & Fong, 2013).

Despite these advances, the construction sector remains one of the more challenging environments for KM implementation. The fragmented supply chains, short-term contractual relationships, and diversity of stakeholders pose systemic barriers to KM maturity (Egwunatum & Oboreh, 2022). These barriers are especially pronounced in small to medium-sized firms, which lack the resources to implement sophisticated KM systems. Furthermore, the emphasis on project delivery over organizational learning continues to marginalize KM in many construction enterprises. The evolution of KM has laid a conceptual and operational foundation for the emergence of KVCM models. As KM transitioned from static knowledge repositories to dynamic, value-oriented systems, scholars recognized the need to map knowledge processes directly to organizational performance outcomes (Rezgui et al., 2010). This realization gave rise to the KVCM approach, which integrates KM activities into a chain of interrelated processes that collectively generate measurable business value (Boamah et al., 2022). In project-based industries like construction, where knowledge must be continuously created, contextualized, and applied across shifting teams and time-bound deliverables, KVCM offers a structured methodology to convert intellectual capital into strategic advantage (Dewagoda et al., 2021). Thus, KVCM can be understood as an advanced extension of KM, bridging the gap between knowledge practice and value realization in complex, knowledge-intensive sectors.

2.2   KNOWLEDGE VALUE CHAIN MODELS

KVCMs are structured frameworks that outline the processes through which knowledge is created, shared, and applied within organizations. One of the foundational models was introduced by Porter (1985) in his Value Chain framework, which highlighted how value is created through a series of primary and support activities. Adapted for KM, KVCMs emphasize the flow and transformation of knowledge across different stages, such as knowledge creation, storage, sharing, and utilization. These stages are essential for capturing both explicit and tacit knowledge, ensuring that valuable insights from past projects or organizational experiences are effectively leveraged. The application of KVCMs in KM practices can foster better decision-making, innovation, and overall organizational learning, particularly in knowledge-intensive industries like construction (Rezgui, 2001). However, the effectiveness of KVCMs depends on their integration into organizational structures and the willingness of individuals to contribute their knowledge to these systems.

A key aspect of KVCMs is their focus on knowledge creation and dissemination, often facilitated by advanced technologies such as knowledge management systems (KMS). Dalmarco et al. (2017) argue that effective KVCMs not only capture knowledge but also enhance knowledge sharing across departments, reducing silos and promoting organizational cohesion. By structuring knowledge flows, KVCMs ensure that both tacit and explicit knowledge are accessible for decision-making processes, contributing to competitive advantage. However, despite their benefits, the challenge often lies in the codification of tacit knowledge, experiential, often unspoken insights that are difficult to formalize (Nonaka & Takeuchi, 2007). Construction organizations, for instance, struggle with capturing the vast amounts of tacit knowledge generated through project experiences, which is critical for maintaining continuity between projects (Carrillo et al., 2013). KVCMs have evolved significantly since Porter's seminal work in 1985, which introduced a framework for analysing competitive advantage by examining primary and support activities within organizations. Over time, these models have adapted to include critical aspects of KM and digital transformation, which are increasingly important in today's data-driven business environments. Table 1 provides a summary of five key KVCMs that have been recognized through the literature. These models have played a key role in the evolvement of knowledge management in the construction industry.

Table 1: KVCMs developed over the years

	Reference	Model summary
1	(Porter, 1985)	This model identifies primary (inbound logistics, operations, outbound logistics, marketing and sales, and service) and support activities (firm infrastructure, human resource management, technology development, and procurement) to analyse competitive advantage.
2	(Alavi & Leidner, 2001)	This model applies value chain logic to knowledge, focusing on stages such as acquisition, codification, transfer, and application to optimize the creation and utilization of knowledge within organizations.
3	(Stankosky, 2005)	This model extends KM principles by focusing on knowledge flow and transformation within organizations,

	Reference	Model summary
		advancing from data to information, knowledge, and wisdom to support strategic decision-making.
4	(Lambert & Cooper, 2000)	This model adds customer and supplier relationship management to traditional value chain analysis, reflecting modern supply chain complexities.
5	(Bharadwaj et al., 2013)	This model adapts value chain concepts for digital business, emphasizing data-driven processes and digital resources, enhancing efficiency and responsiveness in real-time market dynamics.

In developed economies, the application of KVCMs has been linked to enhanced project integration, transparency, and innovation. Organizations benefit from ICT-enabled knowledge flows, organizational learning cultures, and institutional incentives. In contrast, the implementation of KVCs in developing countries often suffers from significant structural deficiencies. These include limited digital infrastructure, fragmented project teams, and the absence of formal knowledge-sharing mechanisms. Such inefficiencies constrain the conversion of knowledge into actionable project outcomes, contributing to cost overruns and tendering inefficiencies (Senaratne & Sabesan, 2010). Sri Lanka exemplifies this disparity. Despite the growing strategic role of Quantity Surveyors in managing cost and risk, KVCM adoption remains embryonic. Studies reveal knowledge-sharing mechanisms are informal, often limited to individual initiative, with minimal institutional support or sector-wide frameworks (Perera & Gunatilake, 2022). These systemic gaps highlight a pressing need for a context-specific KVC model tailored to Sri Lanka's construction environment. This study addresses that lacuna by critically exploring the preconditions necessary for meaningful KVC integration in tendering processes.

3. RESEARCH METHODOLOGY

This study adopts a qualitative, interpretivist (constructivist) research paradigm to investigate how knowledge is generated, shared, and applied in tendering processes within Sri Lankan construction organizations. The interpretivist approach, which focuses on understanding subjective meanings and contextualized practices, is well-suited for exploring the complex, tacit nature of knowledge in construction tendering settings (Creswell & Creswell, 2017).

3.1 RESEARCH DESIGN AND RATIONALE

Given the exploratory nature of the study and the limited literature on KVCM in construction tendering, a qualitative approach was selected. This design enables deep engagement with the perspectives of QSs, and other professionals involved in the tendering process. The study specifically focuses on the contractor-side perspective, as contractors are primarily responsible for operationalizing knowledge in competitive bidding and pricing strategies. Two qualitative methods were employed: semi-structured expert interviews and multiple case studies. The combination enhances methodological triangulation and allows for both depth (through interviews) and context (through organizational case analysis) as recommended in exploratory construction research (Yin, 2009).

3.1.1 Phase I: Expert Interviews

Semi-structured interviews were conducted with ten purposefully selected professionals (Table 2). Participants were selected using purposive sampling based on three criteria:

- Minimum of 10 years of experience in tendering/contract management.
- Chartered status or senior executive position.
- Involvement in contractor-side tendering decisions.

This selection ensured that participants possessed in-depth practical knowledge of tendering knowledge practices. The semi-structured format enabled consistent inquiry while allowing exploration of emergent themes (Adeoye-Olatunde & Olenik, 2021).

Table 2: Expert interviewee profiles

Code	Designation	Experience	
		Years	Key Experience
PI.01	Claims Consultant	20	Tendering, Claims Management, Project Management
PI.02	Freelancer QS	30	Tendering, Tender Negotiation, Project Administration
PI.03	Chief QS	20	Tendering, Contract Management, Project Administration
PI.04	Director	43	Tendering, Tender Evaluation, Contract Management
PI.05	Assistant General Manager	11	Tendering, Tender Negotiation, Project Administration
PI.06	Senior Lecturer	26	Tendering, Claims Management, Commercial Management, Forensic Delay Analysis
PI.07	Senior QS	20	Tender Evaluation, Consulting, Project Administration
PI.08	Managing Director	35	Tendering, Tender Negotiation, Contract Management
PI.09	Chairman	20	Tendering, Project Administration, Contract Management
PI.10	Senior QS	20	Tender Evaluation, Consulting, Project Administration

3.1.2 Data Analysis and Validation

Interview transcripts were analysed using manual content analysis, allowing for inductive theme identification with attention to contextual meaning (Mayring, 2021; Salmona & Kaczynski, 2024). Key themes included knowledge creation, sharing mechanisms, barriers, and perceived value across the tendering lifecycle.

To ensure rigor, the following validation strategies were implemented:

- Construct Validity: Achieved through triangulation of interviews and document reviews (Yin, 2009)
- Internal Validity: Enhanced via pattern matching between expected and emergent themes (Takada et al., 2021)

- Reliability: Ensured through standardized interview protocols and systematic transcript archiving (Wong et al., 2023)

4. FINDINGS AND DISCUSSION

This section presents and critically analyses the findings from Phase I of the research, which involved expert interviews aimed at informing the development of a Knowledge Value Chain Management framework for tendering in Sri Lankan construction organizations. Data were obtained from ten semi-structured interviews with Chartered Quantity Surveyors and senior professionals (see Table 2). The themes discussed here are directly derived from interview data and interpreted in relation to the research objectives. Quotations from participants are coded as PI.01 to PI.10.

4.1 THE KNOWLEDGE-INTENSIVE NATURE OF CONSTRUCTION

Participants unanimously agreed that the construction industry is inherently knowledge-intensive due to its complex and dynamic nature. PI.03 noted, "Every tendering decision we make depends on how well we understand the site, client, and contractual environment." The fast pace of technological change and the multifaceted nature of projects demand continuous learning and information flow. This finding reinforces the notion that effective knowledge practices are vital to navigating risk and uncertainty in project environments. Unlike prior literature that generalizes the importance of KM (Nonaka & Takeuchi, 2007), this study emphasizes that the demand for knowledge specificity is especially acute in tendering contexts.

4.2 STRATEGIC USE OF TENDERING APPROACHES

Interviewees highlighted two dominant strategies in tendering: cost leadership and differentiation. Cost leadership is more prevalent in public-sector projects, while differentiation is pursued in private-sector tenders. However, PI.06 emphasized that "real differentiation comes not just from price, but from how we propose to execute and manage the job." These findings nuance Carrillo et al.'s (2013) framework by indicating that strategic deployment is often bid-phase specific and shaped by institutional expectations. Moreover, the interviews revealed a lack of formal integration between strategic intent and knowledge processes, which creates inefficiencies in adapting tendering strategies.

4.3 ROLE OF TACIT KNOWLEDGE IN COMPETITIVE ADVANTAGE

Interviewees consistently emphasized the significance of tacit knowledge in enhancing organizational competitiveness. PI.01 stated, "You can't teach someone how to price intuition, you learn it on the job." The data revealed that practical experience, intuition, and context-sensitive knowledge play a dominant role in shaping tender outcomes. This insight echoes Hanisch et al. (2009), but the study adds granularity by showing how tacit knowledge is often internalized by senior QSs and not effectively transferred within teams. This knowledge asymmetry creates strategic vulnerabilities for firms.

4.4   ORGANIZATIONAL LEARNING AND KNOWLEDGE REUSE

Participants strongly supported the idea that construction organizations function as learning entities. PI.08 observed, "Each project teaches us something new, but we often fail to document or apply that knowledge." The absence of formalized feedback loops leads to repeated mistakes and lost insights. While Darwin (2017) advocates for structured learning in project cycles, the data here suggest that although professionals value learning, organizations lack mechanisms to operationalize it. This presents a critical area where KVCM could improve tendering performance.

4.5   STRATEGIC ROLE OF QUANTITY SURVEYORS

QSs were unanimously acknowledged as central to the competitive success of construction firms. According to PI.02, "The QS is the one who converts the project vision into numbers, it's both an art and a science." Their dual role in cost control and value optimization underscores their importance as knowledge brokers. This supports Mbachu (2015), but the present study contributes further by highlighting how QSs must navigate between managerial and knowledge-intensive roles, making them pivotal in KVC deployment.

4.6   QSS AS KNOWLEDGE WORKERS AND DECISION MAKERS

Interviewees offered nuanced perspectives on classifying QSs as Knowledge Workers (KW) or Decision Makers (DM). PI.09 stated, "Even junior QSs make decisions, maybe not strategic ones, but operationally critical ones." This suggests a fluid continuum where roles shift based on context and experience. This challenges Powell's (2001) rigid categorization and emphasizes the need for adaptable role definitions in KVCM models tailored for construction.

4.7   APPLICABILITY OF THE KVCM IN TENDERING

Participants expressed strong support for the KVCM concept. PI.04 stated, "We badly need a model that helps us align our experience, lessons learned, and market understanding with each new bid." The model was seen as a practical tool for minimizing redundancy, improving pricing strategies, and fostering learning. While Alavi and Leidner (2001) underscore the benefits of structured KM systems, this study provides empirical validation from a Sri Lankan context, highlighting both the necessity and feasibility of KVCM in enhancing tendering effectiveness.

4.8   BARRIERS TO KVCM IMPLEMENTATION

Several barriers to KVCM implementation emerged from the interviews. While these challenges are situated within the Sri Lankan construction context, they are emblematic of broader trends observed across developing and transitional economies in the construction sector, suggesting that the findings are both context-specific and generalizable to comparable settings. A recurrent theme is the misalignment between formal knowledge systems and existing organizational structures. Specifically, the fragmentation of KVCs and the marginalization of enabling systems reflect a structural rigidity commonly observed in project-based industries. Dewagoda et al. (2021) identified this lack of integration as a barrier to optimizing knowledge as a competitive asset in contractor organizations, underscoring the importance of cohesive systems that facilitate knowledge continuity across the tendering lifecycle.

Behavioural and cultural resistance emerges as another critical barrier. This includes scepticism toward knowledge outputs, disregard for feedback mechanisms, and an entrenched focus on traditional roles. These cultural barriers are not unique to Sri Lanka but are well documented in global construction knowledge management studies. As noted by Senaratne and Sabesan (2010), there exists a strong reluctance to share knowledge due to professional insecurities and a lack of systemic incentives, resulting in poor dissemination and underutilization of institutional knowledge. Furthermore, Mahinkanda et al. (2019) highlight the difficulty of bridging the theory-practice gap in value management frameworks due to resistance to new ideas, inadequate training, and minimal support for professional development in knowledge-based roles.

Operational constraints, namely time and cost limitations, were universally acknowledged across all data sources. These are symptomatic of the fast-paced, budget-restricted nature of construction tendering worldwide. The literature emphasizes that KWs, such as quantity surveyors, are often "running against time," which inhibits the adoption of reflective and systematic knowledge practices (Senaratne & Sabesan, 2010). These conditions are mirrored in other studies that link tight project cycles with poor uptake of long-term knowledge strategies. Human resource constraints also appear to have wide relevance. The shortage of skilled professionals with dual competencies in construction and knowledge management has been highlighted as a structural gap, both in Sri Lanka and in other developing regions. Senaratne and Sabesan (2010) emphasized that the emigration of experienced quantity surveyors and the undervaluation of their roles within local firms leads to a weakened knowledge base and diminished opportunities for mentoring and skill transmission.

Finally, the delayed realization of KVCM benefits reflects a broader industry challenge regarding innovation adoption. Without short-term measurable outcomes, organizations may lack the strategic foresight and patience to nurture knowledge ecosystems. This impatience is compounded by a narrow definition of "value" that favours immediate cost or time savings over intangible gains like learning, adaptability, or collaborative capacity. These findings, while grounded in Sri Lankan case studies, point to broader, cross-contextual insights. They underscore the need for an integrative approach to KVCM that encompasses not just technological enablers and formal processes, but also human, cultural, and institutional readiness. As such, the barriers presented are not anomalies but are reflective of deeper structural and behavioural tendencies within the global construction sector. Addressing them requires more than technical adjustments, it calls for a paradigmatic shift in how organizations perceive and operationalize knowledge.

5. CONCLUSION

This This study explored the preliminary conditions necessary for developing a KVCM framework tailored to the tendering processes of Sri Lankan construction organizations. Grounded in qualitative insights from expert interviews with senior Quantity Surveyors and construction professionals, the research examined how knowledge is created, shared, and utilized during tendering, and identified the structural, cultural, and operational factors that influence these practices.

The findings highlight that construction tendering in Sri Lanka is heavily reliant on tacit knowledge, with limited formal mechanisms for capturing and institutionalizing experiential learning. Despite recognition of the strategic value of knowledge in gaining

competitive advantage, organizations lack structured systems for knowledge reuse, resulting in inefficiencies and recurring errors. The study also reveals the dual role of QSs as both Knowledge Workers and Decision Makers, underscoring their pivotal function in shaping tender outcomes. Furthermore, interviewees affirmed the relevance and potential of the KVCM concept for enhancing knowledge-driven competitiveness, even though its practical adoption remains minimal.

This research contributes original, context-specific insights into the intersection of knowledge management and tendering strategy in a developing country context. It advances the understanding of QSs' evolving roles and provides empirical evidence supporting the applicability of KVCM principles in contractor-led tendering environments.

5.1 LIMITATIONS AND FUTURE RESEARCH

This paper represents Phase I of a broader research project. Phase II will involve in-depth case studies with C1-graded construction organizations to examine organizational-level practices and validate the findings. The future phase will culminate in the development of a conceptual KVCM framework specifically adapted to Sri Lankan contractor organizations, linking knowledge processes with decision-making across the tendering lifecycle.

This study is limited by its exclusive reliance on interview data, which, while rich in insight, may not fully capture organizational systems or informal practices across diverse firm sizes. Additionally, the sample was restricted to contractor-side professionals, limiting perspectives from consultants or clients. Future research should incorporate multi-stakeholder viewpoints and mixed methods to triangulate findings and generalize the model across different construction contexts.

6. REFERENCES

Adeoye-Olatunde, O. A., & Olenik, N. L. (2021). Research and scholarly methods: Semi-structured interviews. *Journal of the American College of Clinical Pharmacy*, 4(10), 1358–1367. https://doi.org/10.1002/jac5.1355

Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 1(10), 107–136. https://doi.org/10.2307/3250961

Anumba, C. J., & Pulsifer, D. (2010). Knowledge management systems for construction. In *Construction research congress 2010: Innovation for reshaping construction practice,* (pp. 1–10). American Society of Civil Engineers. https://searchworks.stanford.edu/view/8653556

Baia, E., Ferreira, J. J., & Rodrigues, R. (2020). Value and rareness of resources and capabilities as sources of competitive advantage and superior performance. *Knowledge Management Research & Practice*, 18(3), 249–262. https://doi.org/10.1080/14778238.2019.1599308

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: Toward a next generation of insights. *MIS Quarterly*, 37(2), 471–482. https://doi.org/10.25300/MISQ/2013/37:2.3

Boamah, F. A., Zhang, J., Wen, D., Sherani, M., Hayat, A., & Horbanenko, O. (2022). Enablers of knowledge management: Practical research-based in the construction industry. *International Journal of Innovation Science*, 14(1), 121–137. https://doi.org/10.1108/IJIS-09-2020-0142

Carrillo, P., Ruikar, K., & Fuller, P. (2013). When will we learn? Improving lessons learned practice in construction. *International Journal of Project Management*, 31(4), 567–578. https://doi.org/10.1016/j.ijproman.2012.10.005

Chen, L., & Fong, P. S. (2013). Visualizing evolution of knowledge management capability in construction firms. *Journal of Construction Engineering and Management*, 139(7), 839–851. https://doi.org/10.1061/(ASCE)CO.1943-7862.0000651

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

Dalmarco, G., Maehler, A. E., Trevisan, M., & Schiavini, J. M. (2017). The use of knowledge management practices by Brazilian startup companies. *RAI Revista de Administração e Inovação*, 14(3), 226–234. https://doi.org/10.1016/j.rai.2017.05.005

Darwin, C. (2017). Building a learning organization. *Knowledge solutions*, *57*(54), 78-99.

De Bem Machado, A., Secinaro, S., Calandra, D., & Lanzalonga, F. (2022). Knowledge management and digital transformation for industry 4.0: A structured literature review. *Knowledge Management Research & Practice*, 20(2), 320–338. https://doi.org/10.1080/14778238.2021.2015261

Dewagoda, K. G., Perera, B., & Senaratne, S. (2021). A "knowledge value chain" framework for contractor organisations to maximise chances of winning tenders. *Built Environment Project and Asset Management*, 11(4), 577–593. https://doi.org/10.1108/BEPAM-02-2020-0021

Di Vaio, A., Palladino, R., Pezzi, A., & Kalisz, D. E. (2021). The role of digital innovation in knowledge management systems: A systematic literature review. *Journal of Business Research*, 123, 220–231. https://doi.org/10.1016/j.jbusres.2020.09.042

Egwunatum, S. I., & Oboreh, J. C. (2022). Factors limiting knowledge management among construction small and medium enterprises. *Journal of Engineering, Project, and Production Management*, *12*(1), 25-38. http://dx.doi.org/10.32738/JEPPM-2022-0003

Gallupe, B. (2001). Knowledge management systems: Surveying the landscape. *International Journal of Management Reviews*, 3(1), 61–77. https://doi.org/10.1111/1468-2370.00053

Hanisch, B., Lindner, F., Mueller, A., & Wald, A. (2009). Knowledge management in project environments. *Journal of Knowledge Management*, *13*(4), 148-160. DOI: 10.1108/13673270910971897

Lambert, D. M., & Cooper, M. C. (2000). Issues in supply chain management. *Industrial Marketing Management*, 29(1), 65–83. https://doi.org/10.1016/S0019-8501(99)00113-3

Mahinkanda, M., Sandanayake, Y., & Ekanayake, B. (2019). Bridging the theory-practice gap in value management in Sri Lankan construction industry. In *Proceedings of the 8th World Construction Symposium, Colombo, Sri Lanka*, 8-10 November 2019, (pp. 147-157). https://2019.ciobwcs.com/papers DOI: doi.org/10.31705/WCS.2019.15.

Mayring, P. (2021). *Qualitative content analysis: A step-by-step guide*. Sage Publications.

Mbachu, J. (2015). Quantity Surveyors Role in the Delivery of Construction Projects: A Review. *Quantity Surveyors (NZIQS)*, *25*(1), 21.

Nonaka, I., & Takeuchi, H. (2007). The knowledge-creating company. *Harvard Business Review*, 85(7/8), 162–171.

Nonaka, I., & Takeuchi, H. (2023). The knowledge-creating company: How Japanese companies create the dynamics of innovation. *Learning: Research and Practice*. Advance online publication. https://doi.org/10.1080/23735082.2023.2272611

Perera, C. S. R., & Gunatilake, S. (2022). Value chain management in Sri Lankan construction industry: Contractor's perspective. *International Journal of Construction Management*, *22*(16), 3137–3147. https://doi.org/10.1080/15623599.2020.1843110

Porter, M. E. (1985). How information gives you competitive advantage. *Harvard Business Review*, 63(4), 149–160.

Porter, M. E. (2008). *Competitive advantage: Creating and sustaining superior performance*. Simon & Schuster.

Powell, T. C. (2001). Competitive advantage: Logical and philosophical considerations. *Strategic Management Journal*, *22*(9), 875-888. https://doi.org/10.1002/smj.173

Rezgui, Y. (2001). Review of information and the state of the art of knowledge management practices in the construction industry. *The Knowledge Engineering Review*, *16*(3), 241–254. https://doi.org/10.1017/S026988890100008X

Rezgui, Y., Hopfe, C. J., & Vorakulpipat, C. (2010). Generations of knowledge management in the architecture, engineering and construction industry: An evolutionary perspective. *Advanced Engineering Informatics*, 24(2), 219–228. https://doi.org/10.1016/j.aei.2009.12.001

Salmona, M., & Kaczynski, D. (2024). Qualitative data analysis strategies. In *How to conduct qualitative research in finance* (pp. 80–96). Edward Elgar Publishing. https://doi.org/10.4337/9781803927008.00012

Senaratne, S., & Sabesan, S. (2010). Managing knowledge as quantity surveyors: An exploratory case study in Sri Lanka. *Built-Environment Sri Lanka*, 8(2), 1–10. DOI:10.4038/besl.v8i2.1911.

Stankosky, M. (2005). *Creating the discipline of knowledge management*. Routledge.

Takada, T., Nijman, S., Denaxas, S., Snell, K. I., Uijl, A., Nguyen, T.-L., Asselbergs, F. W., & Debray, T. P. (2021). Internal-external cross-validation helped to evaluate the generalizability of prediction models in large, clustered datasets. *Journal of Clinical Epidemiology*, 137, 83–91. https://doi.org/10.1016/j.jclinepi.2021.03.025

Wong, K. C., Trankle, S. A., Quintans, D., Nguyen, T. N., Usherwood, T., & Chow, C. K. (2023). A systematic approach to improving the transparency of interview refinements and data sufficiency in semi-structured interviews: An illustration using the mass atrial fibrillation screening study. *International Journal of Qualitative Methods*, *22*, 16094069231220773. https://doi.org/10.1177/16094069231220773

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Sage, Thousand Oaks.