Bridging the Lexical Gap in Quantity Surveying: A Systematic Review and the Proposal for a Digital Jargon-Translation Framework

[1]Amirul Muqmin bin Mahadzir

[1]Politeknik Sultan Abdul Halim Mu'adzam Shah

***Corresponding Author**

DOI: https://dx.doi.org/10.47772/IJRISS.2025.925ILEIID000083

Received: 23 September 2025; Accepted: 30 September 2025; Published: 07 November 2025

ABSTRACT

The field of Quantity Surveying (QS) is foundational to the construction industry, yet its reliance on specialized jargon creates significant communication barriers for students, clients and non-specialist stakeholders. This lexical divide can impede educational outcomes and lead to costly misunderstandings in professional practice. To investigate the scope of this problem and identify gaps in current solutions, this paper presents a systematic literature review. The review analyzes scholarly articles published between 2010 and 2025 from databases such as Scopus and Web of Science, focusing on communication challenges, pedagogical hurdles and technological aids in the QS domain. Our thematic analysis of the selected literature reveals three critical themes: (1) jargon as a significant barrier to student comprehension and foundational learning; (2) miscommunication between QS professionals and clients leading to project disputes; and (3) a lack of targeted, accessible digital tools to demystify QS terminology. Based on these findings, we propose a conceptual framework for a digital solution named **QS Jargon Apps**. This framework outlines an interactive, context-aware application designed with features such as a real-time glossary, visual aids and gamified learning modules to directly address the challenges identified in the literature. The paper contributes a structured analysis of a persistent industry problem and presents a theoretically-grounded digital intervention, laying the groundwork for future empirical validation and development.

Keywords: Quantity Surveying, Jargon, Communication Barrier

INTRODUCTION

Quantity Surveying (QS) is an essential discipline within the built environment, governing cost management, procurement and contract administration for construction projects (Ashworth, Hogg, & Higgs, 2013). The profession's effectiveness hinges on precise communication among a diverse group of stakeholders, including architects, engineers, contractors and clients. However, the discourse within the QS field is saturated with technical jargon, specialized terminology that, while efficient for experts, often proves opaque to non-specialists (Perera, Hayles, & Kerlin, 2011).

This lexical barrier poses a dual challenge. In educational settings, students new to the field often struggle to internalize complex concepts when the language itself is a hurdle, potentially weakening their foundational knowledge (Enegbuma & Ali, 2012). In professional practice, misinterpretation of terms related to contracts, measurements, or costings can lead to disputes, project delays and financial losses (Cheung & Yiu, 2017). While various glossaries and textbooks exist, they often lack the accessibility, interactivity and contextual depth required for effective, on-demand learning and communication.

The proliferation of mobile and web technologies presents an opportunity to address this long-standing issue. However, the development of effective educational technology (EdTech) must be grounded in a clear

understanding of the problem. Therefore, this paper aims to:

1. Conduct a systematic literature review to identify and synthesize evidence on the impact of technical jargon in QS education and practice.

2. Identify gaps in existing digital tools designed to support QS communication and learning.

3. Propose a conceptual framework for a digital application, "QS Jargon Apps," designed to address the challenges identified through the literature review.

METHODOLOGY

To ensure a rigorous and transparent analysis, this study adopted the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Page et al., 2021). The methodology involved four distinct stages: identification, screening, eligibility assessment and inclusion.

Search Strategy

A comprehensive search was conducted in prominent academic databases, including Scopus, Web of Science and Google Scholar, for literature published between January 2010 and September 2025. The search query combined keywords using Boolean operators: ("Quantity Surveying" OR "Cost Management" OR "Built Environment") AND ("jargon" OR "terminology" OR "communication" OR "language barrier") AND ("student" OR "education" OR "client" OR "stakeholder") AND ("app" OR "digital tool" OR "technology").

Inclusion and Exclusion Criteria

Studies were included if they were: (a) peer-reviewed journal articles, conference papers, or book chapters; (b) written in English; and (c) focused on communication, terminology, or pedagogical challenges within the QS or a closely related construction management field. Articles were excluded if they were editorials, non-English publications, or did not directly address the role of specialized language.

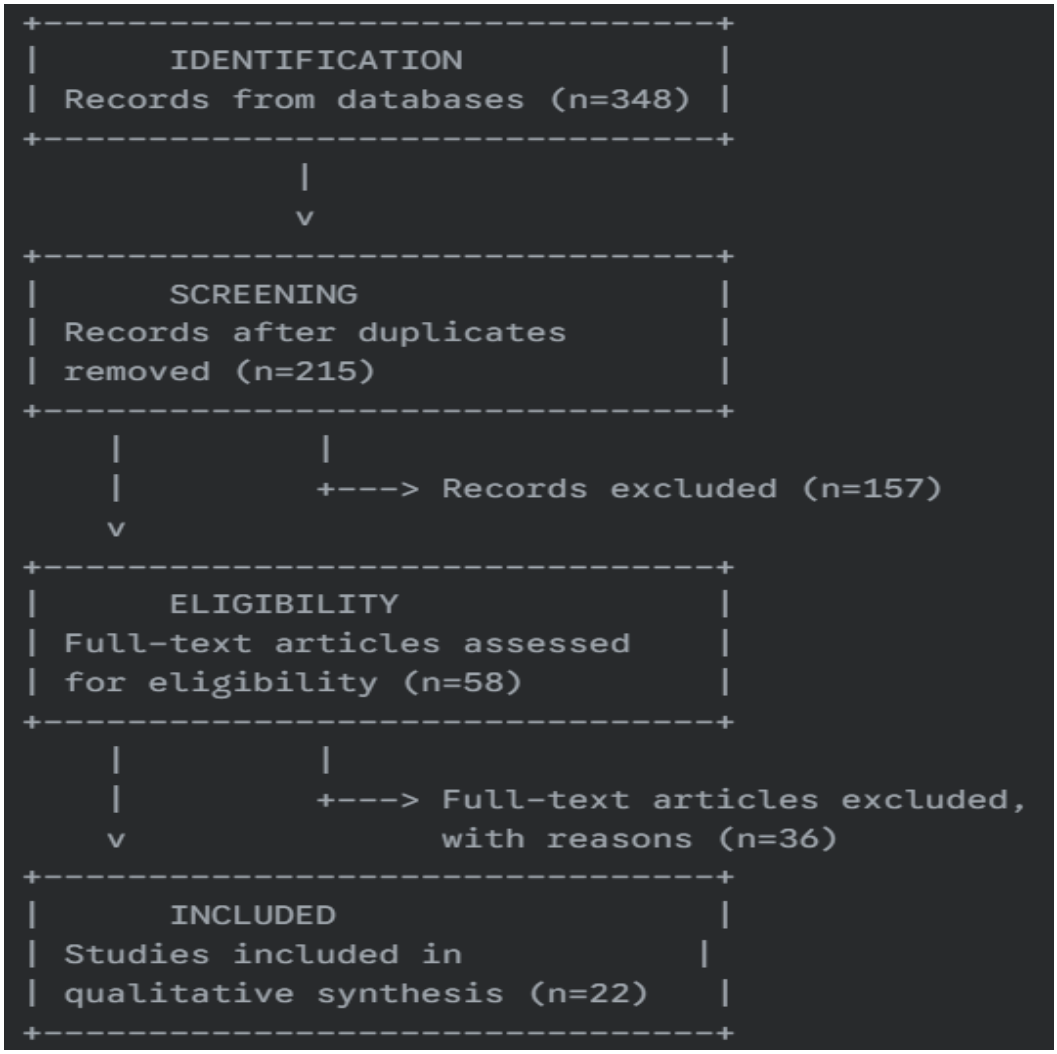
Data Extraction and Thematic Synthesis

Relevant data from the included studies were extracted, including study objectives, methodology, key findings and identified challenges. A thematic analysis approach was employed to synthesize the findings, where recurring concepts and patterns were coded and organized into overarching themes.

Results of the Systematic Review

The initial database search yielded 348 records. After removing duplicates, 215 titles and abstracts were screened. Following this, 58 full-text articles were assessed for eligibility, resulting in a final selection of **22 studies** that met the inclusion criteria. The PRISMA flow diagram in Figure 1 illustrates this process.

Figure 1: PRISMA Flow Diagram of the Study Selection Process



The thematic analysis of these 22 studies revealed three predominant themes.

Theme 1: Negative Impact of Jargon on Student Learning and Pedagogy A significant portion of the literature (n=11 studies) highlighted that the dense terminology in QS acts as a primary cognitive barrier for novice learners. Students reported feeling overwhelmed, which hindered their ability to grasp core concepts like contract law and cost planning (Enegbuma & Ali, 2012). Traditional teaching methods, reliant on textbooks, were often cited as insufficient for providing the contextual understanding needed to apply these terms effectively.

Theme 2: Communication Breakdown and Disputes with Non-Technical Stakeholders The review identified eight studies that linked QS jargon directly to conflicts and miscommunication in construction projects. Clients and other non-technical stakeholders frequently misunderstand critical terms in contracts and cost reports, leading to unmet expectations and formal disputes (Cheung & Yiu, 2017). This theme underscores the need for tools that facilitate clear, transparent communication between QS professionals and their clients.

Theme 3: Scarcity of Targeted and Interactive Digital Support Tools While the literature acknowledged the rise of general construction management software, a clear gap was identified (n=7 studies) in the availability of dedicated digital tools for terminology demystification. Existing digital dictionaries are often static and lack context, while more advanced software focuses on calculation and project management rather than communication and learning. The literature suggests a demand for interactive, user-friendly applications that can provide real-time, context-based explanations.

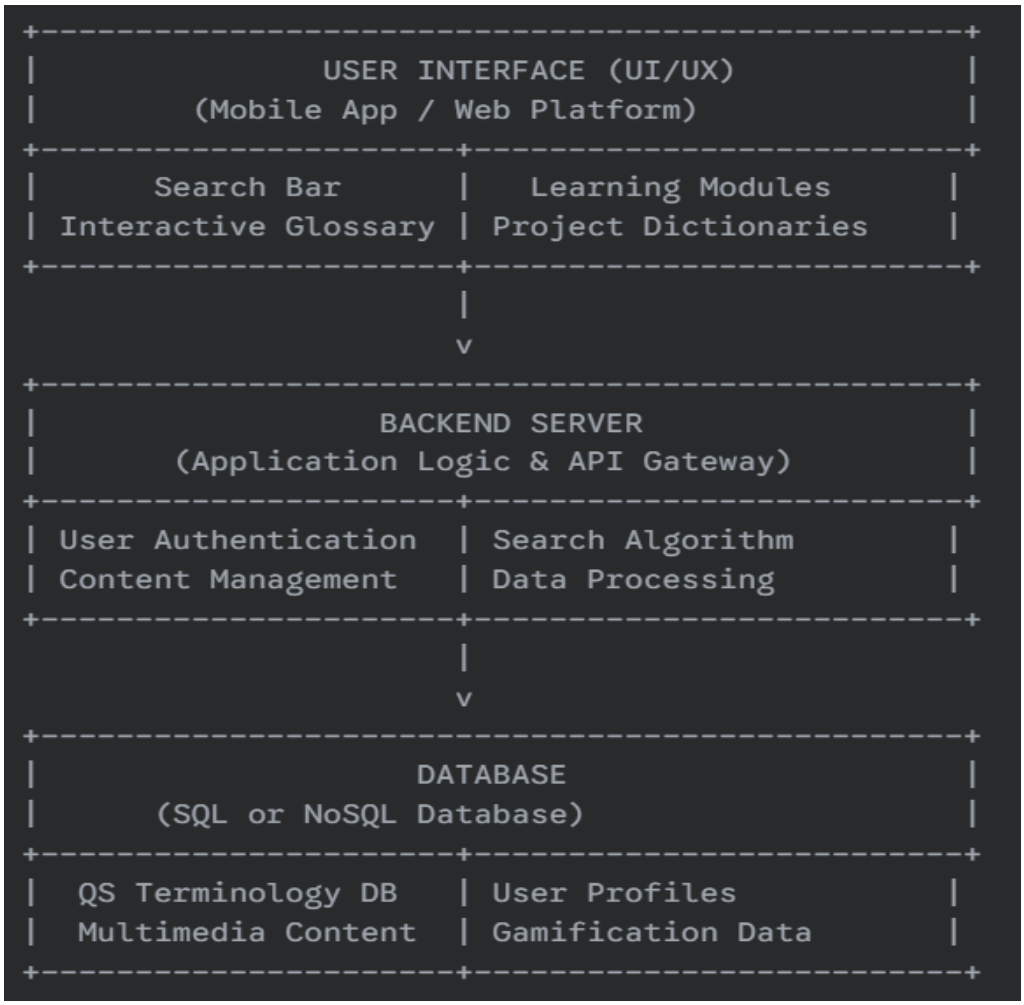
Proposed Conceptual Framework: QS Jargon Apps

Based on the gaps and challenges identified in the systematic review, we propose a conceptual framework for a digital tool named **QS Jargon Apps**. This application is designed not merely as a dictionary but as an integrated learning and communication ecosystem. Its features directly correspond to the themes identified in our results.

Core Features and Functionality The proposed app would be built on a multi-layered architecture (see Figure 2) and would include the following features:

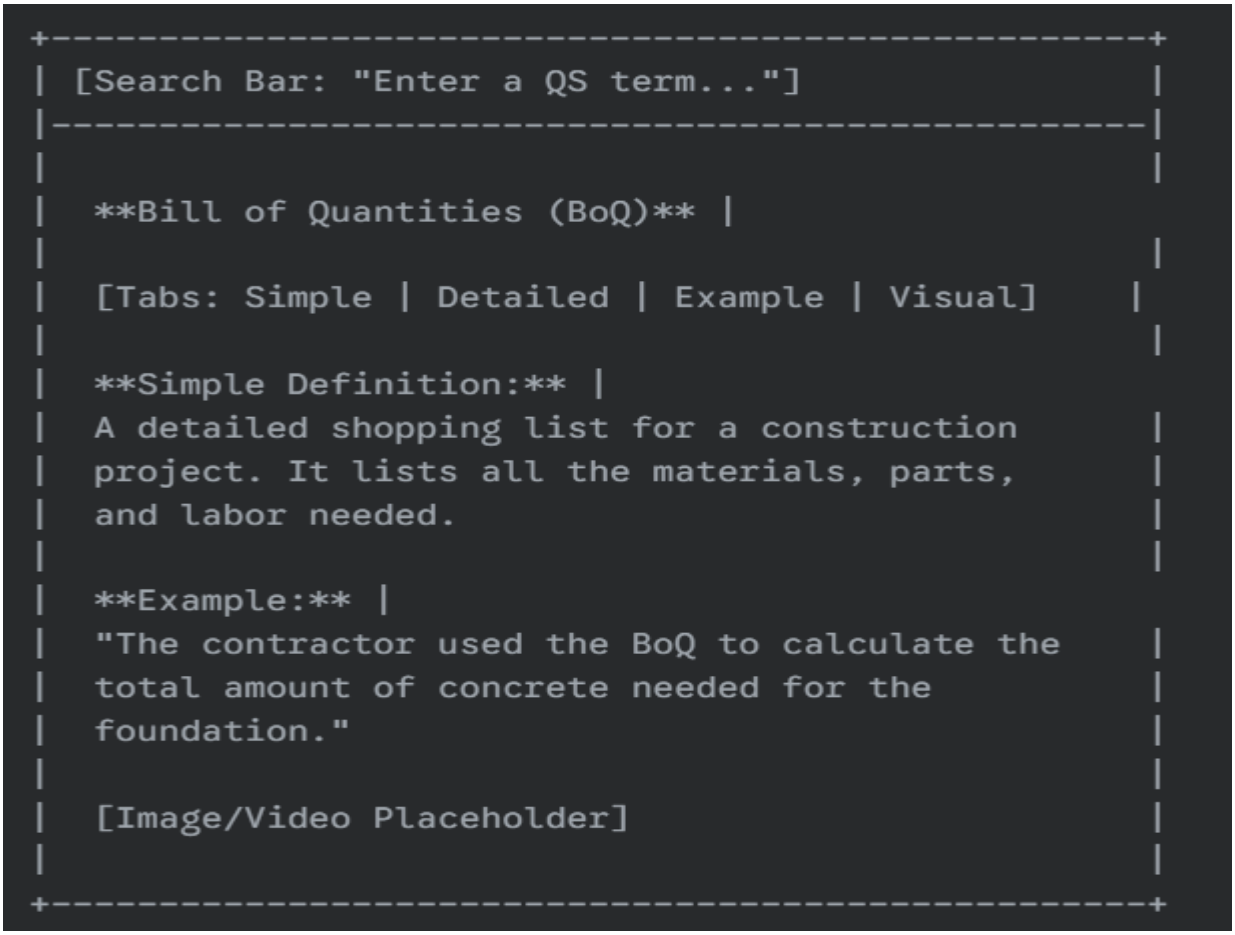
1. **Interactive Glossary with Real-Time Search:** To address the immediate need for definitions, the app would offer a dynamic search function that provides simple, layman-friendly explanations of QS terms.
2. **Context-Based Explanations:** To combat the decontextualized learning identified in Theme 1, each term will be supplemented with practical examples, images and short videos showing its application in a real-world project scenario.
3. **Multilingual Support and Voice-Enabled Search:** To enhance accessibility for a diverse range of stakeholders, including international clients.
4. **Gamified Learning Modules:** To support students (addressing Theme 1), the app would include quizzes, flashcards and scenario-based challenges to make learning engaging and reinforce knowledge retention.
5. **Project-Specific Dictionaries:** To aid professional communication (addressing Theme 2), QS professionals could create and share project-specific term lists with clients, ensuring all parties have a common reference point.

Figure 2: Proposed System Architecture for QS Jargon Apps



User Interface (UI/UX) Design Philosophy The UI/UX design (see Figure 3 for a conceptual mock-up) would prioritize simplicity and clarity, ensuring that even users with no technical background can navigate the app effortlessly.

Figure 3: Conceptual UI/UX Mock-up for QS Jargon Apps



DISCUSSION AND IMPLICATIONS

This study confirms, through a systematic review of existing literature, that specialized jargon is a significant and persistent barrier in both QS education and professional practice. Our findings align with broader research on communication in technical fields, which emphasizes the need for knowledge translation tools (Conboy, 2013). The proposed **QS Jargon Apps** framework offers a direct response to this need.

For Education: The app serves as a supplementary pedagogical tool that can enhance traditional teaching methods. By offering interactive and contextual learning, it helps build a stronger foundational knowledge base for students, as called for by Enegbuma and Ali (2012).

For Industry: The framework empowers non-technical stakeholders by democratizing knowledge. It facilitates clearer communication, potentially reducing the disputes and misunderstandings reported by Cheung and Yiu (2017). This aligns with industry calls for greater transparency and collaboration.

CONCLUSION AND FUTURE WORK

This paper successfully conducted a systematic literature review, identifying the critical challenges posed by technical jargon in Quantity Surveying. The findings validate the need for a modern, digital solution. We have proposed the conceptual framework for **QS Jargon Apps**, a tool designed to bridge the lexical gap between experts and non-experts.

The primary limitation of this study is that the proposed application is currently conceptual. The next logical step is to move from framework to practice. Future work will involve:

1. Developing a functional prototype of the application.
2. Conducting rigorous usability testing and empirical validation through controlled user studies with students and industry professionals.
3. Measuring key performance indicators (KPIs), such as improvements in learning outcomes, task completion rates for clients and user satisfaction scores.

By transforming technical communication into an accessible and engaging experience, this innovation has the potential to enhance educational outcomes and professional practice in the built environment.

REFERENCES

1. Ashworth, A., Hogg, K., & Higgs, C. (2013). Willis's practice and procedure for the quantity surveyor (13th ed.). Wiley-Blackwell.
2. Cheung, S. O., & Yiu, T. W. (2017). A study of construction dispute resolution in Hong Kong. Journal of Construction Engineering and Management, 143(7), 04017024.
3. Conboy, K. (2013). The role of boundary objects in knowledge translation for evidence-based practice. Journal of Management Information Systems, 30(2), 129-158.
4. Enegbuma, W. I., & Ali, K. N. (2012). A conceptual framework for improving quantity surveying students' learning performance. In Proceedings of the 4th International Conference on Education and New Learning Technologies (EDULEARN12) (pp. 5678-5687).
5. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ, 372.
6. Perera, S., Hayles, C. S., & Kerlin, S. (2011). An analysis of the communication barriers in the client–quantity surveyor relationship. Journal of Financial Management of Property and Construction, 16(1), 45-62.