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A METHODOLOGY STUDY ON THE ROLE OF QUANTITY SURVEYING INSAFETY COST PLANNING AND RISK MITIGATION IN THE CONSTRUCTION PROJECTS

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ABSTRACT

The construction industry in Malaysia is one of the highest contributors to workplace accidents and fatalities. Despite efforts to reduce accidents through various mechanisms and regulations such as the Occupational Safety and Health Act (OSHA) 1994, Construction Industry Development Board (CIDB) guidelines, and SHASSIC assessment, accidents in the industry remain a major issue. A significant contributing factor is the lack of financial allocation for safety planning, which has a direct impact on safety performance. Quantity Surveyors (QSs) have an essential role in cost management and cost planning. However, in most cases, they do not consider Occupational Safety and Health (OSH) elements during the planning stage, especially in the early phase of project cost estimation. This research aims to study the role of QSs in optimising safety costs to minimise risks and liabilities in construction projects. The research adopts a qualitative approach by combining data gathered from literature review and semi-structured interviews. The interviewees include QSs and safety officers working in building construction projects in Malaysia. The expected outcome is a framework of safety value planning to guide the Quantity Surveyor's involvement in planning for safety-related costs while reducing liabilities and ensuring regulatory compliance.

Keywords: *Quantity Surveyor, Occupational Safety and Health (OSH), Safety cost, Cost planning, Safety value planning*

INTRODUCTION

Malaysia's construction industry continues to face high rates of incident occurrence of workplace accidents despite prevailing workplace safety regulations. This is partially due to an attitude towards treating safety as a cost function excess rather than one of fundamentals of project success. Expenditure

on safety measures such as Personal Protective equipment together with training is maintained low as well as de-emphasised in favour of structural or perceptible project features. Quantity Surveyors (QSs), as responsible as they primarily are cost planners as well as controllers, have a potential role in correcting this imbalance. By being involved in cost planning of expenditure on safety measures, there could be resulting better alignment of measures of Workplace Safety and Health with general project financial structure. By any stretch of imagination, this function is not clearly delineated nor worked out in depth in practice, especially in preliminary plans of projects. This research aims at investigating how QSs can facilitate balanced cost expenditure on issues of safety in order to reduce project risk as well as liability. Towards this goal, it proposes a methodological approach towards determining how QSs can be further involved in veritably treating safety as a construction management expenditure priority.

PROPOSED METHODOLOGY

This qualitative exploratory study uses the Malaysian building sector as the setting in order to probe application of Quantity Surveyors (QSs) to cost optimisation of projects related to risk and safety reduction. The study involves a two-stage phase. The first phase entails the systematic literature review in the preparation of conceptual foundation work. The literature used comprises journal articles, government documents, and building sector guidance of texts regarding occupational safety, safety cost estimations, and risk liability in building projects. CIDB Guidelines on OSH Management System (2020), SHASSIC Assessment Guidelines (CIDB, 2017), and texts of academics like Windapo (2013), among others, comprise the highlighted literature reviewed. The thematic areas insinuated include the omission of expenditure regarding safety in preliminary planning phases, prevention measures underestimation, as well as the systemic absence of QSs in OSH-related expenditure planning. These themes had bearing on planning of an interview protocol as the plan of the subsequent study phase

The second phase entails the collection of primary data through semi-structured interviews among the professionals who actually operate in the building industry. Respondents will be Quantity Surveyors and Safety and Health Officers, sampled through snowball sampling, for relevancy and real-world practice. The respondents will be 8 to 12, comprising respondents from consultancy and contractor backgrounds. Interviews will be conducted online, if possible, or face-to-face, based on respondents' schedules and practical convenience. Interviews will be audio-recorded, transcribed, and thematic analyses conducted through Braun and Clarke's (2006) six-step mathematical analysis process, consisting of coding , identification of themes, as well as interpretation. Qualitative software, NVivo, will be used, if necessary, to facilitate ease of handling the data and pattern identification. This phase shall unveil the real-world challenges as well as opportunities in the areas of safety cost planning and make conceptual contributions towards the enhancement of the role of the QSs in risk-based cost planning. This methodology borrows from Latib et al. (2016), Zakaria et al. (2020), as well as Yusuwan and Adnan (2013), whose individual and joint messages point to the need for value-based construction management as the stimulator of the broadened role of the QSs as well as the increased extent of the professional responsibilities of the QSs.

A conceptual framework diagram as shown in Figure 1 is provided in order to add further clarity on this topic, in which would cover the safety planning role of QSs' process. The framework would cover the safety cost allocation, risk reduction projects outcomes, regulation requirements, and QS roles interaction.

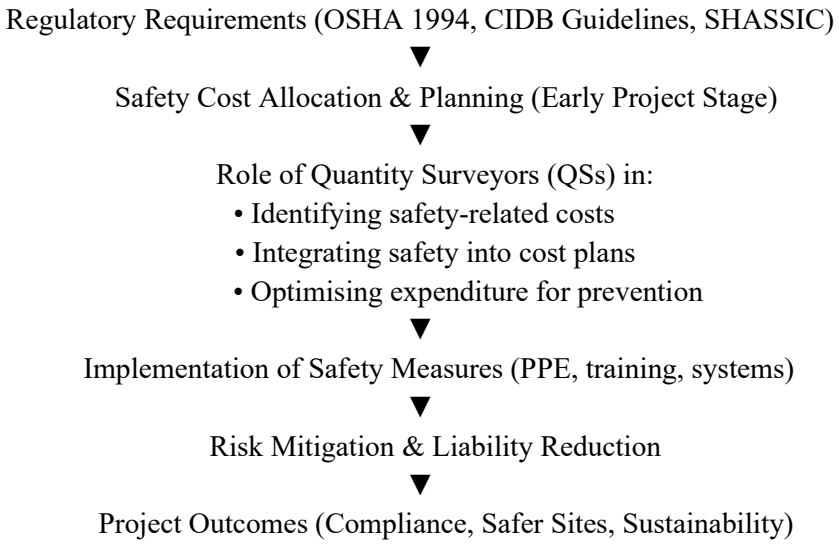

Figure 1.: Conceptual framework of the methodology

CONCLUSION

This research provides a conceptual model of how Quantity Surveyors can be used to reduce the cost of safety and control liability of building works construction projects. Through comparison of theoretical literature as well as practical application through interview, the research would seek to identify gaps and opportunities of application. The potential deliverable would be a conceptual model to reposition the QSs as proactive rather than reactive contributors at the planning of the safety phase. The potential benefit would be improved compliance, safer sites, and more sustainable project results. The research would also strengthen Malaysian building profession policy and professional development.

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REFERENCES

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101.

Construction Industry Development Board (CIDB). (2017). Safety and Health Assessment System in Construction (SHASSIC) Guidelines. CIDB Malaysia.

Construction Industry Development Board (CIDB). (2020). Guidelines on Occupational Safety and Health Management System (OSHMS) in Construction Industry. CIDB Malaysia.

Latib, K. A., Yusof, N., Awang, H., & Ismail, F. (2016). Occupational safety cost in Malaysian construction industry. Advances in Research and Sustainable Engineering Technology (ARASET), 5(1), 53–63.

Windapo, A. O. (2013). Relationship between degree of risk, cost and level of compliance to occupational health and safety regulations in construction. Australasian Journal of Construction Economics and Building, 13(2), 67–80.

Yusuwan, N. M., & Adnan, H. (2013). Issues associated with construction procurement performance: A Malaysian perspective. International Journal of Construction Management, 13(2), 45–59.

Zakaria, N., Aziz, F. A., & Nawawi, A. H. (2020). Value management implementation and the role of quantity surveyors: A Malaysian context. Journal of Surveying, Construction & Property, 11(2), 1–9.