Using Stakeholder Theory to Explain the Development and Operation of Safety Culture and Systems to Improve Safety Performance in the Construction Industry in Saudi Arabia

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Abstract

Project management in the Saudi Arabian construction industry is an activity complicated by the current widespread lack of a mature organisational safety culture, which results in a high incidence of serious and fatal accidents, making it difficult to deliver project objectives. The thesis addresses this major problem. In Saudi Arabia, the General Organization for Social Insurance (GOSI) released a report on the number of work-related fatalities, injuries, and disabilities for 2009-2010. There were 85,624 serious workers' compensation claims and 587 fatalities compensated for (GOSI 2009-2010).

The construction industry has the highest number of accidents in Saudi Arabia, with 50.2% of all compensation cases related to construction. Such a high accident rate is not acceptable. Human resources are too valuable to waste through avoidable incidents. It is imperative, therefore, to identify factors and establish policy frameworks that can reduce the number of accidents.

The main causes of these accidents have been linked directly to pressures from management. Inconsistencies in policies, standards, quality control, training and knowledge dissemination all impact workforces negatively, as do financial restrictions, lack of interaction between workers, the workplace environment, equipment and materials (Charles *et al.* 2007; Gibb *et al.* 2006). Accidents have also been indirectly linked to human behaviour, social pressure, attitudes to risk taking, trade customs, financial pressure and industry traditions (Charles *et al.* 2007).

For many years, researchers around the globe have investigated the causes of the high level of accidents in the construction industry. In Saudi Arabia, they have grappled with the problem of understanding the 'safety' or 'accident' phenomenon, and have failed to identify the causes of the high number of accidents, or to determine the barriers that prevent individual workers, companies, and the government from improving safety.

Despite the growing body of literature on safety culture in the construction industry, it is still widely recognised that the empirical validation of stakeholder involvement in safety culture at the level of senior management is limited. Senior management contribution to safety performance has rarely been studied, and the connections between top management's actions and their objectives in relation to safety performance appear to have been neglected.

This research is therefore an attempt to verify the causal relationships and interactions between stakeholder involvement, safety culture, and safety performance in the construction industry, thus providing a better understanding of their interaction which, in turn, may improve safety. To achieve this objective, a conceptual model was developed to enable empirical research via responses to a questionnaire distributed to the three different types of project – small, medium, and large – that comprise the Saudi construction industry. A total of 384 valid responses was received.

The results were analysed by means of various statistical methods, including inferential statistics. The proposed model was validated using reliability analysis, construct validity, confirmatory factor analysis, and structural equation modelling.

The qualitative findings confirmed the significance of stakeholder involvement in enforcing and influencing a positive safety culture, and revealed certain safety issues specific to Saudi Arabian

construction projects. Furthermore, the results show that in the context of the Saudi construction industry, a stakeholder's involvement is positively associated with an organisation's safety attitudes, management safety practices, the effectiveness of the safety management system, and safety performance.

The model provided in this study is a systematic approach to assess the safety culture of construction organisations and to guide them in self-assessments. The research contributes to the literature pertaining to assessments of stakeholder involvement and safety culture. Furthermore, it offers a valuable tool to government bodies and regulatory agencies for assessing their efforts in improving safety culture.