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## Major Participants in the Construction Industry and Their Approaches to Risks: a Theoretical Framework

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### Abstract

The construction sector is an important engine for economic development in Australia. A variety of stakeholders is involved in any construction project. Major participants including design teams, clients, contractors and project managers are examples of stakeholders that have the ability to hinder or promote the progress of a construction undertaking. Each participant's approach towards the project is likely to be influenced by its characteristics such as power, interest, and influence as well as their actual role in the project, education, experience, etc. This research is aimed at comparing the major participants of the client, design team, contractor and project manager involved in construction projects based on their characteristics and the risk management approaches they implement. The research will ascertain if there is a correlation between the major participants based on their characteristics and their approach to risk management.

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### 1. Introduction

The construction industry is an important component of the Australian economy. The industry accounted for approximately 8% of the labour force and 5.5% of the GDP for 1999-2000. Its impacts upon the general economy extend far beyond the sole erection of buildings as it has linkages with many other sectors particularly due to the large

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number and variety of participants involved in it either directly or indirectly. The construction sector is considered to be an essential productive driver for economic development in Australia [1].

Given the nature of the construction industry, there is a high inherent risk factor of late or non-completion [2, 3], running over budget [4] and/or non-compliance with requirements among a majority of construction projects. More often than not a variety of stakeholders, including major participants of design teams, clients, contractors and project management, are involved in building projects. Each invests a substantial outlay of capital, in the form of time, resources or financial backing. As a result these major participants and stakeholders in general have a great deal of power which can influence and shape the progress of any project. The push and pull effects and interrelationships of characteristics within a stakeholder's organisation and between stakeholders themselves can have a significant impact upon the construction sector and in turn the entire value chain [5, 6].

The type and number of stakeholders involved, the size, uniqueness and complexity of the actual project itself combined with the current social, political and economic climate all contribute to the level of risk [7]. The sources of risk may arise from environmental, logistics, design, financial, legal/contractual, political, operational or technical areas. The risks cause cost and time overruns ultimately impacting on the overall success of the project. It is generally accepted that stakeholders within the construction sector aim to manage risks to create a sustainable outcome [8].

Many studies, to date, have been conducted on identifying the attributes of stakeholders involved in construction projects. Some have been in the form of case studies of specific projects and so provide a narrow perspective of the situation but do provide valuable data [9, 10]. Furthermore, a considerable amount of the research has been conducted overseas such as the United Kingdom [11, 12], Asia [2, 13, 14] and the Middle East [3] with little discussion of the Australian situation in comparison. While there is some research available on stakeholder attributes such as power, interest and role in construction projects [9, 10] there is less reference as to how particular stakeholders actually approach and manage risk themselves. In reference to risk in the construction industry, past research tends to focus on ways of identifying risk and the strategies and the benefits of particular risk management techniques during a construction project in relation to the project objectives [7, 8]. A number of studies of particular interest were conducted by Carr and Tah [15], Skitmore and Wilcock [16] and Tah et al. [11] which concluded that a formal risk management process was a rarity within many industries. Furthermore, Akintoye and MacLeod [12] in a UK study, found that there was some reliance on intuition or "good feeling" when conducting risk analysis. This also raised the question as to the real extent and implementation of formalised risk management amongst stakeholders within the construction industry in Australia.

The current economic climate in Australia is quite confronting and a number of well-known and reputable companies involved in major construction projects have recently had to enter into receivership. This research will focus on the major participants in a construction project being clients, design teams, contractors and project managers. There are many risks and uncertainties that must be considered by the major participants of design team, client, contractors and project management when involved in construction projects. This research focuses on how the characteristics including size, role, experience, education of clients, design team, contractors and project managers as major participants involved in construction projects, affect their approach to risk. These characteristics will then be aligned with their use of formal risk management tools or lack thereof.

Based on the research problem, the following research questions are developed:

- Is there a correlation between major participant characteristics including role, size, education, experience and their approach to risk management?
- Do major participants; clients, design team, contractors and project managers with different characteristics approach risk differently?
- How is intuition and experience used in risk management by clients, design team, contractors and project managers?

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