An Analysis of Risk Management in Social Infrastructure Public Private Partnerships (PPPs)

By

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A thesis submitted in fulfilment of the requirements for the Research Higher Degree of PhD at the University of Newcastle, Australia

October 2014
DECLARATION: STATEMENT OF ORIGINALITY

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University’s Digital Repository, subject to the provisions of the Copyright Act 1968.

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Marcus Charles Jefferies
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ABSTRACT

The overall aim of this thesis is to examine the perceptions of public and private sector stakeholders in social infrastructure Public-Private Partnership (PPP) schemes in order to develop a framework of risk factors. The theoretical framework developed from reviewing relevant literature is tested against organisational data from Australian companies who bid for PPPs and further refined via case study data from current Australian PPP projects. The outcomes of the comparison are discussed and project specific risk factor frameworks are established.

Public Private Partnerships (PPPs) are long-term contractual arrangements between the public and private sectors, whereby resources and risk are shared for the purpose of developing public infrastructure. The last three decades have seen the evolution of PPPs as an alternative procurement method to traditional methods of delivering public infrastructure. Constant and competing demands for public sector investment for new infrastructure has prompted Australian governments to increasingly turn to the private sector to form partnerships in the construction, ownership and operation of infrastructure assets. This has become a major challenge for all stakeholders, as government alone cannot meet provision, however, the emergence of PPPs provides an alternate means for developing infrastructure at a rate that maintains and allows growth without directly impacting upon the government’s budgetary constraints. The concepts of PPPs are without doubt extremely complex arrangements, which bring to the construction sector risks not experienced previously.

The majority of key historical work into risk factors of public-private sector joint ventures has been within the field of BOT (Build-Operate-Transfer) and BOOT (Build-Own-Operate-Transfer) projects. In Australia, BOT and BOOT are early forerunners of procurement methods that are now commonly defined as PPPs. The research addresses a knowledge gap in the analysis of the various phases of PPP schemes, particularly for the provision of ‘social’ infrastructure projects. Although few PPP schemes have reached the transfer stage of the cycle, due the common 20-30 year operational period, there are sufficient projects in their operational phase to facilitate such analysis.
There is considerable growth potential for PPPs given that the New South Wales Government has developed policies to expand the application of PPPs to include social infrastructure. A key argument for Governments to procure projects using PPPs is that the process would deliver better overall value for all the stakeholders, including the broader community. Social infrastructure projects are characterised as generally being smaller in scale than economic infrastructure projects and, by their very nature, also tend to be complex, particularly in terms of ongoing involvement with the community. Australian social infrastructure PPPs must allow for the private sector to utilise its expertise and gain a broader scope of work and an increased transfer of responsibility (risk).

Current opinion supports the contention that recent social infrastructure projects in Australia are not always true partnerships and there is a clear need to reduce the ‘tokenism’ of Australian PPPs. The Public Sector needs to make PPPs more attractive to the Private Sector and clarify the identification of risk in order to transfer more responsibility to the Private Sector. Notwithstanding some of the current challenges with PPPs, the number of proposed projects is on the increase and there are a number of private sector players who are willing to bid in this environment.

The case study projects have shown significant evidence of managing the risk factors and fulfilling successful risk management required for a sustainable operation. Each project is an example of how both Government and private industry is attempting to meet Australia’s need for social infrastructure in the new millennium. Finally, there is general acceptance that social PPPs are part of the procurement landscape in Australia. Therefore, continued research into PPPs is vital to ensure the development of sustainable procurements methods that offer greater rewards for both public and private sector stakeholders, and in particular, the community at large.
Before formally introducing the thesis, the author believes that it is important to demonstrate evidence that the work submitted for this thesis is a significant contribution to the current body of knowledge at PhD level.

During the enrolment period, and contributing to the subsequent development of this thesis, the author has published the following publications that bear direct relevance to the thesis topic:


The presentation and publication of this work demonstrates that it has been reviewed, accepted and recognised internationally. The process of publishing work during the thesis enrolment period has allowed the author to gain on-going feedback from academic peers, researchers and professionals alike.
THE STRUCTURE OF THIS THESIS

Chapter One - Introduction

The first chapter introduces the thesis topic, by stating the research problem and providing some background and justification to the pursuit of such research. This chapter forms an important foundation from which the balance of the study extends, giving the reader an introduction to the problem and the overall aim of thesis. The objectives of the research listed within this chapter indicate the issues that the study aims to address.

Chapter Two - Literature Review

This chapter addresses the literature related to the topic of study. From the comprehensive review of related literature, analysis is made of the key issues and themes identified, ending ultimately in the development of a risk factor framework. The literature review aims to satisfy several of the broader thesis objectives. It initially raises the reader’s awareness of the topic beyond that provided within the introduction and establishes the level of research previously carried out within the topic area. The literature review familiarises the reader with the PPP concept and locates the topic within the context of this thesis. The literature review, in the form of a theoretical framework, establishes the key risk factor issues and examples of successful risk management identified from historical and current research.

Chapter Three - Research Method

The methodology explored within this thesis serves to clarify and justify the research strategy, plan and the structure of the thesis. It can be described as the operational framework of the entire research. After reviewing the literature the risk factor framework is tested by applying it to the case study projects. The data collection process was divided into two main stages and this is explained and justified in detail in this chapter. Stage 1 involved case studies at organisational level and Stage 2 involved case studies at project level. This involved the compilation and analysis of information provided by the case study organisations and project participants. Collection of data is
performed by way of multi-stage semi-structure interview process with key project personnel that focused on the risk factor framework developed from the literature review.

Chapter Four - Case Study: Stage 1

This chapter focuses on the case study results at organisational level (Stage 1). The chapter describes in detail the themes that emerged during the interview process with participants representing the main organisations involved in bidding for PPPs in Australia. As well as identifying specific issues relating to PPPs, particularly social infrastructure projects, Stage 1 of the case study process also presents a detailed map of all PPP projects undertaken in Australia from 1988-2013. The results of this chapter helped to contextualise PPPs within the procurement landscape in Australia and lay the foundations for Stage 2 of the case study, which narrowed the focus down to individual PPP projects.

Chapter Five – Case Study: Stage 2

This chapter focuses on the case study results at project level (Stage 2). The culmination of reviewing contract summaries, project documentation and interviews with key project from each of the case study projects is provided in this chapter. The initial section of each case study project is used to describe background information on each of the projects before subsequent detailed analysis and summary of results is provided. A review of project documentation allowed for the initial compilation of project specific risk factors. The interview process further expanded and then refined these issues and allowed for the development of risk identification, risk allocation and successful risk management. Significant comments from the interview process have been incorporated throughout the relevant analysis sections of this chapter and are presented as supporting ‘case examples’ that help to clarify key issues. Results are then summarised by presenting them in tabular form with some brief supporting discussion for key issues that describe successful examples of risk management. The framework differs somewhat from the one developed when reviewing the literature in that actual projects and participants (organisations) are identified.
Chapter Six - Discussion

Further discussion of the key issues is presented in this chapter. Therefore, comparisons between the risk frameworks established during both the review of the literature and the case study process are drawn. Differences or disparity between both the theory and case study results are discussed and there is also comparative discussion between the case study projects themselves.

Chapter Seven - Conclusions and Recommendations

Conclusions are drawn from the research of the thesis. Issues are drawn from the findings of the literature (theoretical framework) and the relevant case study project data, i.e. the themes that emerged during Stage 1 (organisation level) and the risk factor frameworks for the case study projects (Stage 2). Recommendations for further research are identified along with the application of the thesis findings.

References

A supporting list of thesis references is provided and presented using the Harvard System.

Appendices

Relevant appendices are provided as further support and information for the reader. They contain information on ethics approval and include key issues from the contract summary and planning documents from each the case study projects.