THE POTENTIAL ADOPTION OF RELATIONAL CONTRACTING IN JABATAN KERJA RAYA MALAYSIA

NORAISAH BINTI KADIRIN

UNIVERSITI TEKNOLOGI MALAYSIA

UNIVERSITI TEKNOLOGI MALAYSIA

DECLARATION OF POSTGRADUATE CAPSTONE PROJECT REPORT AND COPYRIGHT Author's full name: NORAISAH BINTI KADIRIN Date of birth : 29 - 01 - 1968 : THE POTENTIAL ADOPTION OF RELATIONAL CONTRACTING Titlle IN JABATAN KERJA RAYA MALAYSIA Academic Session: 2010/2011 I declare that this capstone project report is classified as: (Contains confidential information under the Official Secret CONFIDENTIAL Act 1972)* RESTRICTED (Contains restricted information as specified by the organisation where research was done)* **OPEN ACCESS** I agree that my capstone project report to be published as online open access (full text) I acknowledged that Universiti Teknologi Malaysia reserves the right as follows: 1. The capstone project report is the property of Universiti Teknologi Malaysia. 2. The Library of Universiti Teknologi Malaysia has the right to make copies for the purpose of research only. 3. The Library has the right to make copies of the capstone project report for academic exchange. Certified by: SIGNATURE OF SUPERVISOR Assoc. Prof. Dr. Mohamad Ibrahim Mohamad 680129 - 01 - 5804 NAME OF SUPERVISOR (NEW IC NO. /PASSPORT NO.) Date: 8 December 2010

NOTES : * If the report is CONFIDENTAL or RESTRICTED, please attach with the letter from the organisation with period and reasons for confidentiality or restriction.

Date: 8 December 2010

"I hereby declare that I have read this capstone project report and in my opinion this capstone project report is sufficient in terms of scope and quality for the award of the degree of Master Project Management"

Signature

Name of Supervisor : Assoc. Prof. Dr. Mohamad Ibrahim bin Mohamad

Date : 8 December 2010

THE POTENTIAL ADOPTION OF RELATIONAL CONTRACTING IN JABATAN KERJA RAYA MALAYSIA

NORAISAH KADIRIN

A capstone project report submitted in partial fulfillment of the requirements for the award of the degree of

Master Project Management

Faculty of Civil Engineering Universiti Teknologi Malaysia

December, 2010

I declare that this capstone project report entitled "The Potential Adoption of Relational Contracting in Jabatan Kerja Raya Malaysia" is my own research except as cited in the references. The capstone project report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature

: Noraisah binti Kadirin

Date

Name

: 8 December 2010

to my beloved mother

ACKNOWLEDGEMENT

First of all, I would like to express my sincere appreciation to my project supervisor, Assoc. Prof. Ir. Dr. Mohamad Ibrahim Mohamad of the Faculty of Civil Engineering, Universiti Teknologi Malaysia, for his generous advice, patience, guidance and encouragement during the years of my study.

I wish to extend my gratitude to Sr. Junaidah Sulaiman, Ir. Mohamad Aminudin Md. Amin and Ir. Nazari Hashim who generously spent their precious time to participate in the interview. They have also shared the related literature on the subject matter. Their opinion and comments are highly valuable to this study and for all their contribution; I have incurred intellectual debts with them indeed.

I would also like to express my sincere thanks to all the JKR Professionals, client representatives, consultants and contractors who participated in the questionnaire survey. My seniors and dear friends, who have provided assistance in data collection, also deserve my special thanks.

Finally, I am most grateful for the support and understanding from my mother and family members, my superiors and colleagues, Kalsom and Rodziah; all of whom have been great help in the completion of my study.

Without the contribution of all those mentioned above, this work would not have been possible.

ABSTRACT

Relational Contracting has been promoted to be the solution to the adversarial nature of construction contracts in many countries. However, the adoption of Relational Contracting has not been apparent in the Malaysian public procurement policies where the use of standard forms of contract is mandatory. Although the standard forms were revised to reflect the current development in the industry, contractual disputes continue to occur in both complex and simple projects. This study evaluates the potential of adopting Relational Contracting as an alternative to the current contractual arrangement in management of complex projects in Jabatan Kerja Raya. The Relational Contracting concept being rationalised for adoption is project alliancing model as practiced in Australia where it has been successful in delivering outstanding performance in both public and private construction projects. The adopted methodology was combination of literature reviews, interviews with expert panels and industry survey among key stakeholders in construction projects. The findings concluded that all key contracting parties in construction projects accept the Relational Contracting concept and recognised its contributions in successful project delivery system. However, adversarial environment is found to exist in all key stakeholders' organisations which could deter implementation of Relational Therefore to successfully manage highly complex projects, the Contracting. respondents concurred with the important contributions of factors broadly categorised as experience in Relational Contracting approaches, joint risk management, equitable risk-reward plans and alignment of project objectives. Three broad strategies were proposed for successful implementation of Relational Contracting in JKR; implementation of top driven initiatives, adoption of alliancing in pilot project and inculcation of Relational Contracting working culture in the industry.

ABSTRAK

Kontrak Perhubungan (Relational Contracting) telah dicadangkan sebagai penyelesaian kepada hubungan yang tidak harmoni antara pihak berkontrak di dalam industri pembinaan di banyak negara. Namun demikian, konsep tersebut belum digunakan secara meluas dalam polisi perolehan awam di Malaysia, antara lain disebabkan oleh penggunaan syarat kontrak piawai. Walaupun syarat kontrak piawai telah disemak semula bagi mengambilkira perkembangan semasa di dalam industri pembinaan, pertikaian kontrak masih berterusan. Oleh itu kajian ini dijalankan bagi menilai potensi aplikasi Kontrak Perhubungan sebagai alternatif kepada peraturan kontrak sediaada bagi menguruskan projek kompleks di Jabatan Kerja Raya. Konsep Kontrak Perhubungan yang dicadangkan bagi pemakaian adalah model "project alliancing" yang telah berjaya dilaksanakan di dalam projek pembinaan sektor awam dan swasta di Australia. Data kajian telah diperolehi melalui kajian literatur, temubual dengan pengkaji Kontrak Perhubungan dan borang soal selidik yang telah diedarkan kepada organisasi stakeholder utama di dalam projek pembinaan. Hasil kajian mendapati pihak terlibat di dalam kontrak pembinaan sedia menerima konsep Kontrak Perhubungan dan bersetuju ianya penting dalam sistem penyampaian projek. Walaubagaimanapun, didapati situasi tidak harmoni antara pihak berkontrak wujud dalam semua organisasi, dan ini boleh menjadi penghalang perlaksanaan Kontrak Perhubungan. Oleh itu, bagi menjayakan projek yang kompleks, adalah penting faktor berikut wujud dalam persekitaran projek, iaitu: pengalaman pihak terlibat dalam Kontrak Perhubungan, pengurusan risiko secara bersama, pelan perkongsian risiko/keuntungan yang saksama dan kesejajaran objektif projek. Tiga strategi umum dicadangkan bagi kejayaan pelaksanaan Kontrak Perhubungan di Jabatan Kerja Raya iaitu pelaksanaan insentif yang diterajui oleh pengurusan atasan, pendekatan "alliancing" dalam projek percubaan dan pembudayaan konsep kolaborasi di dalam industri pembinaan di Malaysia.

TABLE OF CONTENTS

CHAPTER	TITLE			
	DECLARATION DEDICATION			
	ACKNOWLEDGEMENTS	iv		
	ABSTRACT	v		
	ABSTRAK	vi		
	TABLE OF CONTENTS	vii		
	LIST OF TABLES	xii		
	LIST OF FIGURES	xiv		
	LIST OF APPENDICES	xv		
1	INTRODUCTION			
	1.1 Introduction	1		
	1.2 Problem Statement	2		
	1.3 The Aim and Objectives	3		
	1.4 Scope of Study	4		
	1.5 Brief Research Methodology	4		
2	RELATIONAL CONTRACTING IN CONSTRUCTION INDUSTRY			
	2.1 Introduction	7		
	2.2 Principles of Relational Contracting	8		
	2.2.1 Definitions of Relational Contracting	8		

			viii
	2.2.2	Types of Relational Contracting	10
	2.2.3	Common Elements of Relational Contracting	11
	2.2.4	Risk Management in Relational Contracting	17
	2.2.5	Potential Benefit of Relational Contracting	19
	2.2.6	Critical Success Factors	20
2.3		rs Facilitating and Factors Deterring Relational racting	20
2.4	Projec	et Alliancing – the Australian Perspectives	21
	2.4.1	The Concept of Project Alliancing	21
	2.4.2	Role of Probity Auditors	25
	2.4.3	Past Achievements of Project Alliancing	26
		2.4.3.1 The National Museum of Australia	26
		2.4.3.2 The Tugun Bypass	29
	2.4.4	Benefits of Project Alliancing	30
2.5		v	30 31
СО	Summ	nary CT GOVERNANCE IN PUBLIC	
CO PR	Summ NTRAC OCURE	nary CT GOVERNANCE IN PUBLIC	
CO PR	Summ NTRAC OCURE Introd	nary CT GOVERNANCE IN PUBLIC MENT	31
CO PR 3.1 3.2	Summ NTRAC OCURE Introd Public	TOOVERNANCE IN PUBLIC MENT Juction	31
CO PR	Summ NTRAC OCURE Introd Public	TOOVERNANCE IN PUBLIC MENT Juction E Sector Governance	31 32 32
CO PR 3.1 3.2 3.3	Summ NTRAC OCURE Introd Public Procur	TOVERNANCE IN PUBLIC MENT fuction c Sector Governance rement of Public Works	31 32 32 33
CO PR 3.1 3.2 3.3 3.4	Summ NTRAC OCURE Introd Public Procur	T GOVERNANCE IN PUBLIC MENT Juction E Sector Governance rement of Public Works Use of Standard Forms of Contract	31 32 32 33 34
CO PR 3.1 3.2 3.3 3.4	Summ NTRAC OCURE Introd Public Procur The U Limita	CT GOVERNANCE IN PUBLIC MENT Juction E Sector Governance rement of Public Works Use of Standard Forms of Contract ations in Standard Forms of Contract Perceptions of contractors and clients	31 32 32 33 34 35
CO PR 3.1 3.2 3.3 3.4	NTRACOCURE Introd Public Procur The U Limita 3.5.1 3.5.2	CT GOVERNANCE IN PUBLIC MENT Juction Sector Governance rement of Public Works Juction Sector Governance Rement of Public Works Rement of Standard Forms of Contract Retains in Standard Forms of Contract Perceptions of contractors and clients	31 32 32 33 34 35 35
CO PR 3.1 3.2 3.3 3.4 3.5	NTRACOCURE Introd Public Procur The U Limita 3.5.1 3.5.2 Revisi	CT GOVERNANCE IN PUBLIC MENT Juction Sector Governance rement of Public Works Juction Sector Governance Rement of Contract Rement	31 32 32 33 34 35 35 37
CO PR 3.1 3.2 3.3 3.4 3.5	NTRACOCURE Introd Public Procur The U Limita 3.5.1 3.5.2 Revisi	CT GOVERNANCE IN PUBLIC MENT Juction C Sector Governance Trement of Public Works Use of Standard Forms of Contract Thations in Standard Forms of Contract Perceptions of contractors and clients Perceptions of consultants and contractors Tion of Standard Forms of Contract	31 32 32 33 34 35 35 37 38
CO PR 3.1 3.2 3.3 3.4 3.5	NTRACOCURE Introd Public Procur The U Limita 3.5.1 3.5.2 Revisi Overc	CT GOVERNANCE IN PUBLIC MENT Juction Se Sector Governance Trement of Public Works Use of Standard Forms of Contract That ions in Standard Forms of Contract The Perceptions of contractors and clients The Perceptions of Consultants and contractors The Perceptions of Consultants and Contractors The Perceptions of Contractors The Perceptions o	31 32 32 33 34 35 35 37 38 39
CO PR 3.1 3.2 3.3 3.4 3.5	NTRACOCURE Introd Public Procur The U Limita 3.5.1 3.5.2 Revisi Overc 3.7.1	CT GOVERNANCE IN PUBLIC MENT Juction Se Sector Governance Trement of Public Works Use of Standard Forms of Contract That ations in Standard Forms of Contract The Perceptions of contractors and clients The Perceptions of Consultants and contractors The Standard Forms of Contract The Perceptions of Consultants and Contractors The Standard Forms of Contract The Standard Fo	31 32 32 33 34 35 35 37 38 39

44

4.1 Introduction

	4.2	Stage	1 : Prelim	inary Study	44
	4.3	Stage	2 : Data C	Collection	45
		4.3.1	Literatur	e Review	46
		4.3.2	Semi Str	uctured Interviews	47
		4.3.3	Question	naire Survey	47
	4.4	Stage	3 : Data A	analysis	48
		4.4.1	Reliabili	ty Tests of Survey Response	48
		4.4.2	Relative	Importance Index	48
		4.4.3	Kruskal-	Wallis Test	49
		4.4.4	Mann-W	Thitney U Tests	50
	4.5	Stage	4 : Writin	g -up	51
	4.6	Summ	nary		51
5	RFS	ΙΙΙΤΔ	ND ANA	VSIS .	
5	5.1		luction		52
	5.2		iew Sessio	ons	52
	5.2	5.2.1		f Expert Panels	53
		3.2.1	5.2.1.1	Interviewee 1	54
				Interviewee 2	54
			5.2.1.3		55
		5.2.2	Overall I	Findings From Interview Sessions	56
	5.3	Findir	ngs From S	Survey Questionnaires	62
		5.3.1	Section A	A – Respondents Profile	63
			5.3.1.1	Respondents' Organisation	63
			5.3.1.2	Respondents' Designation	63
			5.3.1.3	Respondents' Experience	64
	5.4	Reliat	oility of Da	ata	65
	5.5			Common Relational Contracting ds Project Success	66
		5.5.1	Overall I Features	Ranking of Relational Contracting	66
		5.5.2	Importar Elements	ace of Common Relational Contracting	68
		5.5.3	Compari	sons Between Groups of Respondents	70

			5.5.3.1	Significant Difference in Rankings	73
			5.5.3.2	Significant Similarity in Rankings	74
	5.6	Curre	nt Enviror	nment in Project Management	75
		5.6.1	Frequen	cy of Response	75
			5.6.1.1	Comparisons Between Groups	77
			5.6.1.2	Significant Difference in Perceptions	78
			5.6.1.3	Significant Agreement in Perceptions	78
	5.7	Factor	rs Facilitat	ting Implementation of RC	79
		5.7.1	Overall	Relative Importance Index	79
		5.7.2	Compari	isons Between Groups of Respondents	81
			5.7.2.1	Significant Difference in Rankings	86
			5.7.2.2	Significant Similarity in Rankings	86
	5.8	Sumn	nary		88
6	DIS	CHESTO	ONS AND	RESULTS	
O	6.1		luction	ALSOLIS	89
	6.2			RC concept	89
	0.2	6.2.1		ortance of Relational Contracting	90
		0.2.1	Element	· ·	70
	6.3	Factor	rs Deterrir	ng Adoption of Relational Contracting	96
		6.3.1	General	Environment	96
		6.3.2	Differen	ces in perceptions	96
			6.3.2.1	Lack of Contractors Capability	96
				(resources and competencies)	
			6.3.2.2	Interpersonal/Cultural Clash (individual level)	97
			6.3.2.3	Unwilling / unenthusiastic Participation in Collaborative Approaches	98
			6.3.2.4	Win-lose Environment Among Contracting Parties	98
		6.3.3		n Deterring Factors Implementation of al Contracting	99
			6.3.3.1	Inflexible Public Sector Governance	99
			6.3.3.2	Absence of Equitable Risk-Reward Plan	100

101

101

102

102

103

		Relation	al Contracting	
		6.4.2.1	Experience in Relational Contracting Approaches	g 103
		6.4.2.2	Joint Risks Management	104
		6.4.2.3	Equitable Risk-Reward Plan	105
		6.2.4.4	Alignment of Project Objectives	106
6.5			ons for Successful Adoption of racting in JKR	108
	6.5.1	Impleme	entation of Top-Driven Initiatives	107
	6.5.2	Impleme	entation of Alliancing in Pilot Projects	107
	6.5.3	Inculcati Culture	on of Relational Contracting Working	111
6.6	Summ	nary		111
COI	NCLUS:	IONS		
7.1	Introd	uction		112
7.2	Achie	vements o	f the Aim and Objectives of the Study	113
	7.2.1	The Acc Concept	eptance of Relational Contracting	113
	7.2.2	Factors I Contract	Deterring Implementation of Relationa ing	1 114
	7.2.3		Facilitating Implementation of all Contracting	114
7.3	Propo	sed Future	e Research	115
REF	ERENC	CES		116
APF	PENDIC	EES		121 - 130

6.3.3.3

6.3.3.4

Contracting

7

Factors Facilitating Adoption of Relational

6.4.2 Common Factor Facilitating Adoption of

6.4.1 Differences in Rankings

Unfair Risk Allocation/ Risk Sharing

Non-alignment of Project Objectives

LIST OF TABLES

TABLE NO.	TITLE	PAGE
1.1	Summary of The Overall Study Aim, Objectives and Adopted Methodologies	5
2.1	Characteristics of Relational Contract and Construction Contract (adapted from Cheung,2001)	7
2.2	Major definitions of RC in researches (reproduced from Chan et. al, 2009	8
2.3	Similarities and differences of major attributes of six major types of RC (sourced from Chan et. al, 2009	10
5.1	Content Analysis of Interview Sessions with Expert Panels	63
5.2	Questionnaire Distribution and Rate of Response	68
5.3	Reliability test result	71
5.4	Relative Importance Index (Section B)	73
5.5	Comparison between all groups of respondents	78
5.6	Significant difference in rankings between groups of respondents	79
5.7	Comparison of rankings by groups of respondents	79
5.8	Significant similarity in rankings between groups of respondents	80
5.9	Significantly similar rankings and the mean values	81
5.10	Frequency of overall response	83
5.11	Comparison of response between groups	84
5.12	Relative Importance Index (Section D)	88
5.13	Comparison between all groups of respondents	90
5.14	Significant difference in rankings between groups of respondents	92
5.15	Comparison of rankings between JKR and non JKR respondents	92
5.16	Comparison of rankings between Contractors and	93

		xiii
	Consultants	
5.17	Significant similarity in rankings between groups of respondents	94
5.18	Significantly similar rankings and mean values	95

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
1.1	Brief Research Methodology	6
2.1	Strategies for Risk Management in Construction Contract (sourced from Ross, 2003)	20
2.2	3-Limb compensation model (sourced from Ross, 2003)	27
2.3	Mechanism model of Limb 3 (sourced from Ross, 2003)	27
2.4	Typical Project Alliance Framework (Project Alliancing Practitioners' Guide (Victorian Department of Treasury, 2006)	29
5.1	Respondents Organisation	69
5.2	Respondents Designation	70
5.3	Experience in Project Management	71
6.1	Proposed alliance partners selection process	120
6.2	Proposed Project Alliancing Framework	121

LIST OF APPENDICES

TITLE	PAGE
Semi-structured interview questions	121
Questionnaire Survey questions	123
Relative Importance Index and mean value according to organisation (Section B: Common Features of Relational Contracting)	127
Relative Importance Index and mean value according to organisation (Section D: Factors Facilitating Implementation of Relational Contracting)	129
	Questionnaire Survey questions Relative Importance Index and mean value according to organisation (Section B: Common Features of Relational Contracting) Relative Importance Index and mean value according to organisation (Section D: Factors Facilitating

CHAPTER 1

INTRODUCTION

1.1 Introduction

The adversarial nature of construction contracts has been widely discussed since the publications of the Latham and Egan Reports over the last three decades. Since then various approaches had been introduced to address the issue in the form of many novel contractual arrangements such as joint-venture, partnering, collaborations etc collectively known as relational contracting (RC). RC has been publicised to be the solution to the adversarial relationship and was reported to have been successfully implemented in the procurement of both public and private construction projects in the UK, Europe, Australia and Hong Kong. However, RC approach has not been apparent in the Malaysian public procurement policies. One of the reasons for such absence is the mandatory use of standard form of contract for both conventional and design and build projects.

Traditionally construction contract is highly specified which induced the contractors to adopt critical and intolerant attitudes towards clients and consultants; on the other hand, the clients and consultants distrust the contractors (Ling et al, 2006). The authors further suggested that such situations can lead to

self serving behaviours, adversarial relationships and confrontational interactions.

In contrast, Rowlinson and Cheung (2004) proposed that RC is based on recognition of mutual benefits and win-win scenarios through cooperative relationship and efficient communication between parties.

1.2 Problem Statement

The use of standard forms of contract is mandatory in procurement of public development projects regardless of the scope and size of the projects (Ministry of Finance, 2007). Advocates for such practice cited savings in time and costs to negotiate contract terms and ensured consistency and standardised legal protection (Young, 1998). However standard forms of contracts are often criticised as being rigid and having unfair risk allocations among the contracting parties which had caused numerous contractual disputes (Thomson *et al.*, 2000). Although the Malaysian standard forms of contracts have been revised to reflect the current development in the industry, contractual disputes continue to occur even in the less complex projects undertaken by Jabatan Kerja Raya Malaysia (JKR). Consequently, quite often additional work, contractual claims, termination of contracts and arbitrations occurred in JKR's projects.

The potential occurrence of contractual disputes is even higher in managing the construction of complex projects which require balancing the conflicting stakeholders' requirements and interests, overcoming technical and environmental constraints and managing the various project objectives. In such situations, rigid contractual terms and unfair risk allocations often lead to adversarial working environment between the contracting parties.

On the other hand, RC has been widely publicised to be the solution to the adversarial nature of contractual governance (Ross, 2003). According to Sakal (2005), RC encourages project participants to work as an integrated team where all decisions made are "best for project" and the contracting parties win or lose as a group. Highly complex public projects based on RC have been successfully delivered with outstanding achievement of mutually agreed key performance indicators, innovative problem solutions and overall improvement to relationship in the construction industry (Australian Constructors Association, 1999).

JKR has yet to adopt this contractual arrangement in the procurement of public projects. It could be worth considering using customised RC arrangement to manage highly complex projects that have strategic importance and objectives. However, before proposing adoption of RC as an alternative to the current contractual arrangements, it needs to be ascertained that the adoption of RC will not challenge the public sector governance with regards to procurement procedure and contract administration of government funded projects. This is a pertinent issue since suitable guideline is currently not available.

1.3 The Aim and Objectives

The aim of the study is to evaluate the potential of implementing Relational Contracting as an alternative contractual arrangement in the procurement of public works in JKR The objectives of this study are as follows:

i.To evaluate the acceptance of common of RC elements in project management by its key stakeholders;

- ii. To analyse the existence of factors that inhibit the adoption of RC;
- iii. To determine the factors that facilitate the adoption of RC

1.4 Scope of Study

The study is confined to contract governance in projects undertaken by PWD using standard forms of contract either the conventional (PWD 203/203A rev. 10/83 and PWD 203/203A rev. 2007) or design and construct (DB 2002 and DB 2007). The public sector governance being examined is confined to those regarding development project procurement and contract administration.

The concept of RC to be rationalized for adoption in JKR projects is based on project alliancing model practiced in Australia where this strategy is reported to have successfully implemented in public and private sectors.

1.5 BRIEF RESEARCH METHODOLOGY

The summary of the overall study aim, objectives and adopted methodologies to achieve the objectives in this study is as shown in Table 1.1.

Table 1.1 Summary of the overall study aim, objectives and adopted methodologies

<u>AIM</u>:

To evaluate the potential of implementing Relational Contracting as an alternative contractual arrangement in the procurement of public works in JKR.

OBJECTIVES	TASKS	METHODOLOGY
i. to evaluate the acceptance of common of RC elements in project management by its key stakeholders	 Review history, concept and state-of-the-art in RC Study current application of RC within the industry in Australia and other countries 	 Literature review Semi-structured interviews with expert panel Questionnaire survey
ii. to analyse the existence of factors that inhibit the adoption of RC	• Evaluate current environment of managing projects within the industry	Literature reviewQuestionnaire survey
iii. to determine the factors that facilitate the adoption of RC	 Establish the main factors that facilitate implementation of RC Establish suitable approach to implement RC 	 Literature review Semi-structured interviews with expert panel Questionnaire survey
	Result analysis and dissemination	

The study will be carried out in three phases to execute the different tasks as shown in Figure 1.1:

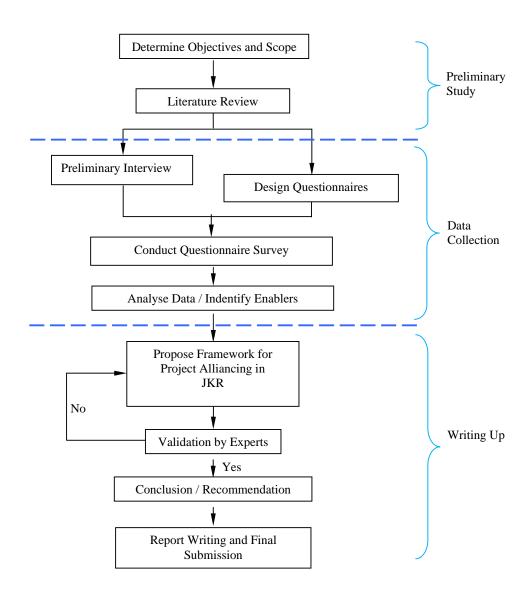


Figure 1.1 : Brief research methodology