

**Investigating the role of procurement practices in effective implementation of
infrastructure projects in a developing country: A Case of Pakistan**

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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DECLARATION

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of thesis is the result of work which has been carried out since the official commencement date of approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

Signed:

Muhammad Ali Noor

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Table of Contents

CHAPTER 1	1
INTRODUCTION	1
1.1 BACKGROUND	2
1.2 RATIONALE FOR THE STUDY	3
1.2.1 IMPORTANCE OF CONSTRUCTION IN DEVELOPING COUNTRIES	3
1.2.2 NEED FOR FURTHER RESEARCH IN DEVELOPING COUNTRIES	4
1.2.3 NEED FOR RESEARCH IN PAKISTAN	5
1.3 PROBLEM STATEMENT	6
1.4 RESEARCH OBJECTIVES	7
1.5 RESEARCH QUESTIONS	7
1.6 RESEARCH METHODOLOGY	7
1.7 RESEARCH SCOPE AND LIMITATIONS	9
1.8 RESEARCH OUTCOMES	10
1.9 STRUCTURE OF THE THESIS	11
1.10 CHAPTER SUMMARY	13
CHAPTER 2	14
LITERATURE REVIEW	14
2.1. INTRODUCTION	14
2.2. DEFINITIONS OF PROCUREMENT	16
2.3. WHAT IS PROCUREMENT	17
2.4. THE EVOLUTION OF PROCUREMENT	19
2.5. PRINCIPLES OF PROCUREMENT	20
2.5.1. VALUE FOR MONEY (VFM)	20
2.5.2. ETHICS	21
2.5.3. COMPETITION	22
2.5.4. TRANSPARENCY	23
2.5.5. ACCOUNTABILITY	24
2.6. IMPORTANCE OF PROCUREMENT SELECTION PROCESS	25
2.7. PROCUREMENT CHOICES /SYSTEMS	26
2.7.1. GENERAL CONTRACTING OR DESIGN-BID-BUILD (THE TRADITIONAL APPROACH)	27
2.7.3.1. <i>Advantages and Disadvantages Traditional Approach</i>	28
2.7.2. DESIGN AND BUILD (D&B)	29
2.7.3.1. <i>Advantages and Disadvantages Design and Build</i>	32
2.7.3. MANAGEMENT CONTRACTING (MC), CONSTRUCTION MANAGEMENT (CM) AND	33
PROJECT MANAGEMENT (PM)	33
2.7.3.1. <i>Advantages and Disadvantages of MC, CM and PM</i>	35
2.7.4. PACKAGE DEALS- BOO, BOT, BOOT	36
2.7.3.1. <i>Advantages and Disadvantages of Package Deals</i>	37
2.7.5. SYSTEMS INVOLVING SERVICE AGREEMENTS	38
2.7.6. COLLABORATIVE AND RELATIONAL BASED PROCUREMENT	39
2.7.3.1. <i>Advantages and Disadvantages of Collaborative and</i> <i>Relational Based Procurement</i>	41
2.7.7. ALLIANCES	41
2.7.8. BEST VALUE BASED PROCUREMENT METHOD	43
2.7.9. PRIME CONTRACTING	43
2.7.10. PRIVATE FINANCED BASED PROCUREMENT	44
2.7.11. PRIVATE FINANCE INITIATIVE (PFI)	45
2.7.3.1. <i>Advantages and Disadvantages of PFI</i>	46
2.7.12. PERFORMANCE BASED METHODS OF PROCUREMENT	49
2.8. ECONOMICS AND COST OF PROCUREMENT	52

2.9.	IMPORTANT FACTORS INFLUENCING PROCUREMENT	55
2.9.1.	THE NATURE AND TYPE OF CLIENTS.....	55
2.9.2.	CLIENT’S OBJECTIVES	56
2.9.3.	INNOVATION.....	56
	2.9.3.1. <i>Definition of Innovation</i>	57
	2.9.3.2. <i>Process Innovation and Product innovation in Procurement</i>	57
	2.9.3.3. <i>Impediments to procurement innovation</i>	59
2.9.4.	EXTERNAL ENVIRONMENT.....	60
	2.9.4.1 <i>Types of Environmental Factors</i>	60
	2.9.4.2 <i>Culture</i>	62
	2.9.4.3 <i>Political</i>	68
	2.9.4.4 <i>Risk</i>	69
	2.9.4.5 <i>Performance Requirements</i>	75
	2.9.4.6 <i>Project Characteristics</i>	76
	2.9.4.7 <i>Lack of understanding of appropriate methods of procurement</i>	77
2.10	SUPPLY CHAIN MANAGEMENT IN CONSTRUCTION	77
2.10.1	DEFINITION IN CONSTRUCTION	78
2.10.2	ORIGIN OF SUPPLY CHAIN MANAGEMENT (SCM).....	78
2.10.3	CONCEPT OF SUPPLY CHAIN MANAGEMENT (SCM)	78
2.10.4	SUPPLY CHAIN MANAGEMENT (SCM) PRACTICE IN CONSTRUCTION	79
	2.10.4.1 <i>Procurement Drivers</i>	81
	2.10.4.2 <i>Procurement Push</i>	81
	2.10.4.3 <i>Marketing Drivers</i>	82
	2.10.4.4 <i>Marketing Pull</i>	83
2.11	CONSTRUCTION AND PROCUREMENT PRACTICES OF THE DEVELOPED WORLD	84
	(ADAPTED FROM MORLEDGE ET AL., 2006)	84
2.11.1	EUROPE	84
	2.11.1.1 <i>The United Kingdom</i>	84
	2.11.1.2 <i>The French System/ Approach</i>	85
	2.11.1.3 <i>The Northern European Approach</i>	86
	2.11.1.4 <i>The Mediterranean Approach</i>	88
2.11.2	CHINESE APPROACH.....	89
2.12	PROCUREMENT PRACTICES IN DEVELOPING COUNTRIES	91
2.12.1	DEFINITION OF DEVELOPING COUNTRIES	91
2.12.2	GENERAL PROBLEMS FACING THE CONSTRUCTION INDUSTRY IN DEVELOPING COUNTRIES	92
2.12.3	KEY ACTORS AND PLAYERS IN THE CONSTRUCTION PROCUREMENT IN	93
	DEVELOPING COUNTRIES.....	93
	2.12.3.1 <i>The Owner or the Client</i>	93
	2.12.3.2 <i>The Professionals</i>	94
	2.12.3.3 <i>The Contractor Sector</i>	95
2.12.4	PUBLIC PROCUREMENT IN DEVELOPING COUNTRIES.....	96
	2.12.4.1 <i>Corruption in Public Procurement</i>	96
	2.12.4.2 <i>Problems in Contract Management</i>	97
	2.12.4.3 <i>Trend in Adoption of Procurement Practices of Developed Countries</i>	98
	2.12.4.4 <i>Lack of Efficiency in Use of Finances and Procurement</i>	99
2.12.5	EXTERNAL ENVIRONMENT.....	99
	2.12.5.1 <i>Finance</i>	100
	2.12.5.2 <i>Foreign Aid</i>	102
	2.12.5.3 <i>Culture</i>	106
	2.12.5.4 <i>Economic</i>	108
	2.12.5.5 <i>Political</i>	110
	2.12.5.6 <i>Technology</i>	111
	2.12.5.7 <i>Construction Industry’s Regulatory Environment</i>	112
	2.12.5.8 <i>Responsibility, Liability and Insurance</i>	113
2.12.6	MAJOR PROBLEMS IN PRIVATE SECTOR PARTICIPATION IN INFRASTRUCTURE	113
	PROJECTS IN DEVELOPING COUNTRIES.....	113
2.12.7	GLOBALISATION	115
2.13	OUTCOMES OF LITERATURE REVIEW	116
2.13.1	IDENTIFICATION OF GAPS IN KNOWLEDGE	116
2.13.2	CONCEPTUAL FRAMEWORK.....	118

2.13.3	LITERATURE REVIEW SUMMARY SHEET	120
2.14	PAKISTAN	126
	2.14.1 <i>Brief History and Background</i>	126
	2.14.2 <i>Geography</i>	127
	2.14.3 <i>Economy</i>	128
	2.14.4 <i>Government and Politics</i>	128
	2.14.5 <i>Security</i>	129
2.15	SUMMARY	131
CHAPTER 3		132
RESEARCH DESIGN AND METHODOLOGY		132
3.1	UNDERSTANDING THE MEANING OF RESEARCH	132
3.2	RESEARCH PARADIGMS AND PHILOSOPHICAL PERSPECTIVES	133
3.3	UNDERSTANDING RESEARCH METHODOLOGIES AND DESIGNS	134
3.4	INTERPRETIVE/CONSTRUCTIVIST PARADIGM AS THE PARADIGM FOR THIS RESEARCH.....	136
3.5	RESEARCH DESIGN STRATEGIES IN INTERPRETIVE/CONSTRUCTIVIST PARADIGM	137
3.5.1	RESEARCH STRATEGY AND APPROACH ADOPTED FOR THIS RESEARCH	138
3.6	COMPREHENDING ARCHIVAL ANALYSIS	141
3.7	UNDERSTANDING CASE STUDY RESEARCH METHOD	143
3.7.1	UNIT OF ANALYSIS, SPECIFIC CASE STUDY DESIGN, AND SELECTION AND NUMBER OF CASES	144
3.7.2	VALIDITY AND RELIABILITY TESTS IN CASE STUDY RESEARCH	147
3.8	RESEARCH METHODOLOGY ADOPTED FOR THIS DOCTORAL THESIS	148
3.8.1	THE CASE STUDY ROAD MAP	149
	3.8.1.1 <i>The Object of the Study</i>	150
	3.8.1.2 <i>The Unit of Analysis</i>	151
3.8.2	THE PROTOCOLS AND FIELD PROCEDURES USED IN THIS RESEARCH	152
	3.8.2.1 <i>Phase 1- Identification & Selection of Case Study Projects</i>	154
	3.8.2.2 <i>Phase 2- Case Study Interviews</i>	159
	3.8.2.3 <i>Phase 3- Analysing the Data and Reaching Conclusions</i>	162
3.9	ENSURING VALIDITY AND RELIABILITY OF RESEARCH METHODOLOGY ADOPTED	166
3.10	ETHICAL ISSUES.....	167
3.11	SUMMARY	168
CHAPTER 4		170
ARCHIVAL ANALYSIS		170
4.1	PUBLIC PROCUREMENT METHODS AND PROJECT APPROVAL PROCESSES IN PAKISTAN.....	170
4.1.1	LEGAL AND INSTITUTIONAL STRUCTURE IN PAKISTAN	170
4.1.2	PROJECT APPROVAL PROCESSES OF TRADITIONAL PROCUREMENT IN PAKISTAN	172
4.1.3	PROJECT APPROVAL PROCESSES OF NON-TRADITIONAL PROCUREMENT IN PAKISTAN	173
	4.1.3.1 <i>Background</i>	173
	4.1.3.2 <i>Institutional Arrangement</i>	175
	4.1.3.3 <i>The Approval Process of Non-Traditional Procurement</i>	177
4.1.4	TRADITIONAL PROCUREMENT METHODS AND PROCEDURES	180
4.1.5	NON-TRADITIONAL PROCUREMENT METHODS AND PROCEDURES.....	182
4.2	ANALYSIS AND DISCUSSION ON PROJECT APPROVAL AND PROCUREMENT METHODS AND PROCESSES IN PAKISTAN.....	184
4.3	SUMMARY	186
CHAPTER 5		187
CASE DESCRIPTION.....		187
5.1	ORGANISATION 1	187
5.1.1.	BACKGROUND AND INTRODUCTION	187
5.1.2.	FUNCTIONS AND RESPONSIBILITIES.....	187
5.1.3.	ORGANISATIONAL STRUCTURE.....	189

5.1.4.	CASE STUDY PROJECT A	190
	5.1.4.1. <i>Background</i>	190
	5.1.4.2. <i>Case/Project Details</i>	190
5.1.5.	CASE STUDY PROJECT B	191
	5.1.5.1. <i>Background</i>	191
	5.1.5.2. <i>Case/Project Details</i>	192
5.2.	ORGANISATION 2	192
5.2.1.	BACKGROUND AND INTRODUCTION	192
5.2.2.	FUNCTIONS AND RESPONSIBILITIES	192
5.2.3.	ORGANISATIONAL STRUCTURE	193
5.2.4.	CASE STUDY PROJECT C	195
	5.2.4.1. <i>Background</i>	195
	5.2.4.2. <i>Case/Project Details</i>	195
5.2.5.	CASE STUDY PROJECT D	195
	5.2.5.1. <i>Background</i>	195
	5.2.5.2. <i>Case/Project Details</i>	196
5.3.	ORGANISATION 3	196
5.3.1.	BACKGROUND AND INTRODUCTION	196
5.3.2.	FUNCTIONS AND RESPONSIBILITIES	196
5.3.3.	ORGANISATIONAL STRUCTURE	197
5.3.4.	CASE STUDY PROJECT E	198
	5.3.4.1. <i>Background</i>	198
	5.3.4.2. <i>Case/Project Details</i>	198
5.4.	ORGANISATION 4	199
5.4.1.	BACKGROUND AND INTRODUCTION	199
5.4.2.	FUNCTIONS AND RESPONSIBILITIES	199
5.4.3.	ORGANISATIONAL STRUCTURE	200
5.4.4.	CASE STUDY PROJECT F	201
	5.4.4.1. <i>Background</i>	201
	5.4.4.2. <i>Case/Project Details</i>	201
5.5.	ORGANISATION 5	202
5.5.1.	BACKGROUND AND INTRODUCTION	202
5.5.2.	FUNCTIONS AND RESPONSIBILITIES	202
5.5.3.	ORGANISATIONAL STRUCTURE	202
5.5.4.	CASE STUDY PROJECT G	204
	5.5.4.1. <i>Background</i>	204
	5.5.4.2. <i>Case/Project Details</i>	204
5.6.	ORGANISATION 6	205
5.6.1.	BACKGROUND AND INTRODUCTION	205
5.6.2.	FUNCTIONS AND RESPONSIBILITIES	205
5.6.3.	ORGANISATIONAL STRUCTURE	206
5.6.4.	CASE STUDY PROJECT H	207
	5.6.4.1. <i>Background</i>	207
	5.6.4.2. <i>Case/Project Details</i>	208
5.7.	SUMMARY	209
CHAPTER 6	210
INDIVIDUAL CASE ANALYSIS	210
6.1	ORGANISATION 1	210
6.1.1	PROCUREMENT SELECTION/ CHOICE	210
6.1.2	ISSUES IN PROCUREMENT SELECTION/ CHOICE	211
	6.1.2.1 <i>Need for Efficiency and Finances</i>	211
	6.1.2.2 <i>Timely Policy Decisions</i>	212
	6.1.2.3 <i>Clarity of Client's Needs</i>	213
6.1.3	ISSUES IN PROCUREMENT IMPLEMENTATION	213
	6.1.3.1 <i>Risk And Contract Management</i>	213
	6.1.3.2 <i>Principles of Procurement</i>	215
	6.1.3.3 <i>Political</i>	215

6.1.3.4	<i>Inter and Intra Organisational Issues</i>	217
6.1.3.5	<i>Culture</i>	219
6.1.3.6	<i>Lack of Understanding of PPP</i>	220
6.1.3.7	<i>Regulatory & Legal</i>	220
6.1.3.8	<i>Conditions of the Country / External Environment</i>	221
6.1.4	IMPACT OF PROCUREMENT ON SUCCESSFUL PROJECT OUTCOMES.....	222
6.1.5	CASE STUDY PROJECT A	222
6.1.5.1	<i>Issues in Procurement Selection/ Choice</i>	222
6.1.5.2	<i>Issues in Procurement Implementation</i>	223
6.1.6	CASE STUDY PROJECT B	224
6.1.6.1	<i>Issues in Procurement Selection/ Choice</i>	224
6.1.6.2	<i>Issues in Procurement Implementation</i>	225
6.2	ORGANISATION 2	227
6.2.1	PROCUREMENT SELECTION/ CHOICE	227
6.2.2	ISSUES IN PROCUREMENT SELECTION/ CHOICE.....	229
6.2.2.1	<i>Need for Efficiency and Finances</i>	229
6.2.2.2	<i>Proposal/Bidding Evaluation Procedures</i>	230
6.2.3	ISSUES IN PROCUREMENT IMPLEMENTATION	235
6.2.3.1	<i>Risk And Contract Management</i>	235
6.2.3.2	<i>Principles of Procurement</i>	237
6.2.3.3	<i>Political</i>	238
6.2.3.4	<i>Accessibility of Finances</i>	239
6.2.3.5	<i>Inter and Intra Organisational Issues</i>	240
6.2.3.6	<i>Culture</i>	242
6.2.3.7	<i>Lack of Understanding</i>	242
6.2.3.8	<i>Regulatory & Legal</i>	243
6.2.3.9	<i>Conditions of the Country / External Environment</i>	245
6.2.4	IMPACT OF PROCUREMENT ON SUCCESSFUL PROJECT OUTCOMES.....	246
6.2.5	CASE STUDY PROJECT C	247
6.2.5.1	<i>Issues in Procurement Selection/ Choice</i>	247
6.2.5.2	<i>Issues in Procurement Implementation</i>	248
6.2.6	CASE STUDY PROJECT D	251
6.2.6.1	<i>Issues in Procurement Selection/ Choice</i>	251
6.2.6.2	<i>Issues in Procurement Implementation</i>	252
6.3	ORGANISATION 3	254
6.3.1	PROCUREMENT SELECTION/ CHOICE	254
6.3.2	ISSUES IN PROCUREMENT SELECTION/ CHOICE.....	255
6.3.2.1	<i>Need for Finances</i>	255
6.3.3	ISSUES IN PROCUREMENT IMPLEMENTATION	256
6.3.3.1	<i>Risk and Contract Management</i>	256
6.3.3.2	<i>Principles of Procurement</i>	256
6.3.3.3	<i>Political</i>	257
6.3.3.4	<i>Inter and Intra Organisational Issues</i>	258
6.3.3.5	<i>Culture</i>	259
6.3.3.6	<i>Regulatory and Legal</i>	260
6.3.3.7	<i>Conditions of the Country/ External Environment</i>	261
6.3.4	IMPACT OF PROCUREMENT ON SUCCESSFUL PROJECT OUTCOMES.....	263
6.3.5	CASE STUDY PROJECT E	263
6.3.5.1	<i>Issues in Procurement Selection</i>	263
6.3.5.2	<i>Issues in Procurement Implementation</i>	264
6.4	ORGANISATION 4	265
6.4.1	PROCUREMENT SELECTION/ CHOICE	265
6.4.2	ISSUES IN PROCUREMENT SELECTION/ CHOICE.....	266
6.4.2.1	<i>Need for Relaxation of Rules</i>	266
6.4.3	ISSUES IN PROCUREMENT IMPLEMENTATION	267
6.4.3.1	<i>Risk and Contract Management</i>	267
6.4.3.2	<i>Principles of Procurement</i>	268
6.4.3.3	<i>Political</i>	269
6.4.3.4	<i>Inter and Intra Organisational Issues</i>	269
6.4.3.5	<i>Culture</i>	272
6.4.3.6	<i>Regulatory & Legal</i>	273
6.4.3.7	<i>Conditions of the Country / External Environment</i>	274
6.4.4	IMPACT OF PROCUREMENT ON SUCCESSFUL PROJECT OUTCOMES.....	274

6.4.5	CASE STUDY PROJECT F.....	275
	6.4.5.1 <i>Issues in Procurement Selection/ Choice</i>	275
	6.4.5.2 <i>Issues in Procurement Implementation</i>	276
6.5	ORGANISATION 5.....	278
6.5.1	PROCUREMENT SELECTION/ CHOICE.....	278
6.5.2	ISSUES IN PROCUREMENT SELECTION/ CHOICE.....	279
	6.5.2.1 <i>Need for Finances</i>	279
6.5.3	ISSUES IN PROCUREMENT IMPLEMENTATION.....	280
	6.5.3.1 <i>Risk and Contract Management</i>	280
	6.5.3.2 <i>Principles of Procurement</i>	281
	6.5.3.3 <i>Political</i>	281
	6.5.3.4 <i>Inter and Intra Organisational Issues</i>	282
	6.5.3.5 <i>Culture</i>	285
	6.5.3.6 <i>Regulatory & Legal</i>	285
	6.5.3.7 <i>Conditions of the Country / External Environment</i>	286
6.5.4	IMPACT OF PROCUREMENT ON SUCCESSFUL PROJECT OUTCOMES.....	287
6.5.5	CASE STUDY PROJECT G.....	287
	6.5.5.1 <i>Issues in Procurement Selection/ Choice</i>	287
	6.5.5.2 <i>Issues in Procurement Implementation</i>	288
6.6	ORGANISATION 6.....	291
6.6.1	PROCUREMENT SELECTION/ CHOICE.....	291
6.6.2	ISSUES IN PROCUREMENT SELECTION/ CHOICE.....	292
	6.6.2.1 <i>Need for Finances</i>	292
6.6.3	ISSUES IN PROCUREMENT IMPLEMENTATION.....	292
	6.6.3.1 <i>Risk and Contract Management</i>	292
	6.6.3.2 <i>Principles of Procurement</i>	292
	6.6.3.3 <i>Political</i>	293
	6.6.3.4 <i>Inter and Intra Organisational Issues</i>	293
	6.6.3.5 <i>Culture</i>	296
	6.6.3.6 <i>Regulatory & Legal</i>	296
	6.6.3.7 <i>Conditions of the Country / External Environment</i>	297
6.6.4	IMPACT OF PROCUREMENT ON SUCCESSFUL PROJECT OUTCOMES.....	297
6.6.5	CASE STUDY PROJECT H.....	298
	6.6.5.1 <i>Issues in Procurement Selection/ Choice</i>	298
	6.6.5.2 <i>Issues in Procurement Implementation</i>	298
6.7	SUMMARY.....	299
	CHAPTER 7.....	301
	CROSS CASE ANALYSIS.....	301
7.1	PROCUREMENT SELECTION/ CHOICE.....	301
7.2	ISSUES IN PROCUREMENT SELECTION/ CHOICE.....	303
7.3	ISSUES IN PROCUREMENT IMPLEMENTATION.....	307
7.4	IMPACT OF PROCUREMENT ON SUCCESSFUL PROJECT OUTCOMES.....	323
7.5	SUMMARY (THE BIGGER PICTURE).....	324
	CHAPTER 8.....	326
	DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS.....	326
8.1	DISCUSSION OF MAIN RESEARCH FINDINGS.....	326
8.2	WHAT ARE THE DIFFERENT TYPES OF PROCUREMENT PRACTICES IN PAKISTAN?.....	327
8.3	WHAT ARE THE MAJOR ISSUES THAT AFFECT THE PROCUREMENT SELECTION OR CHOICE IN PAKISTAN?.....	329
8.4	WHAT ARE THE BARRIERS TO EFFECTIVE IMPLEMENTATION OF THESE PROCUREMENT SYSTEMS?.....	334
8.5	HOW PROCUREMENT PRACTICES ARE PERCEIVED TO DELIVER SUCCESSFUL PROJECT OUTCOMES?.....	347

8.6	WHAT CHALLENGES DOES A DEVELOPING COUNTRY LIKE PAKISTAN FACE WHILE ADOPTING MODERN PROCUREMENT METHODS AND SYSTEMS? HOW ENABLED IS THE ENVIRONMENT TO ACCEPT NEW AND INNOVATIVE FORMS OF PROCUREMENT?	348
8.7	RESEARCH CONTRIBUTIONS	349
8.9	LIMITATIONS	353
8.10	RECOMMENDATIONS FOR FURTHER RESEARCH	355
8.11	SUMMARY	356
	REFERENCES	357
	APPENDIX A PLAIN LANGUAGE STATEMENT	407
	APPENDIX B AN EXAMPLE OF IN-DEPTH INTERVIEW	410

List of Figures

Figure 1.1: Focus of the Study	9
Figure 2. 1: Literature Review Process (Adapted from Fellows and Liu, 1997).....	15
Figure 2. 2: Structure of the Literature Review.....	16
Figure 2. 3: Evolution of Procurement	20
Figure 2. 4: Prime Contracting (Ndekugri and Corbet, 2004)	44
Figure 2. 5: Construction Industry Stability (Parmar <i>et al.</i> 2004 cited in Miller et al 2009).....	51
Figure 2. 6: Construction Innovation System (Gann & Salter 2000).....	59
Figure 2. 7: Risks in Construction Projects (Edwards and Bowen, 1999).....	71
Figure 2. 8: Customer-Supplier Interface in the Project Supply Chain (Love et al., 2004).....	81
Figure 2. 9: Conceptual Framework for this Research.....	119
Figure 3. 1: Research Onion, Source (Saunders, Lewis, Thornhill (2003)).....	134
Figure 3. 2: Research methods, Source (Saunders et al. (2007))	135
Figure 3. 3: Choice of Research Methods Based on Research Questions (Source Yin (2003)).....	140
Figure 3. 4: Research Method Adopted (Source: Saunders et al. (2007)).....	140
Figure 3. 5: Research Design Adopted.....	149
Figure 3. 6: Focus of the Study	150
Figure 3. 7: Object of the Study.....	151
Figure 3. 8: Protocol & Field Procedures	153
Figure 3. 9: Two Round (Round 1 & Round 2) Process for Identification of Respondents.....	158
Figure 4. 1: Project Approval Process and Forums in Pakistan	173
Figure 4. 2: Project Approval Process for Solicited Proposals (IPDF, 2010).....	178
Figure 4. 3: Project Approval Process for Un-solicited Proposal (IPDF, 2010).....	180
Figure 4. 4: Types of Public Procurement in Pakistan.....	184
Figure 5. 1: Organisational Structure of Organisation 1	189
Figure 5. 2: Organisational Structure of Organisation 2	194
Figure 5. 3: Organisational Structure of Organisation 3	198
Figure 5. 4: Organisational Structure of Organisation 4	200
Figure 5. 5: Organisational Structure of Organisation 5	203
Figure 5. 6: Organisational Structure of Organisation 6	206
Figure 7. 1: Predominant Method of Procurement across Cases.	303
Figure 7. 2: Issues Affecting Procurement Choice.....	304
Figure 7. 3: Issues in Procurement Choice by % of Number of Respondents	304
Figure 7. 4: Issues in Procurement Implementation.....	308
Figure 7. 5: Issues in Procurement Implementation by % of Number of Respondents.....	309
Figure 7. 6: The Bigger Picture	325
Figure 8. 1: Types of Public Procurement in Infrastructure in Pakistan.....	327
Figure 8. 2: Force Field Analysis of Traditional Method in Pakistan.....	328
Figure 8. 3: Force Field Analysis of Non-Traditional Method in Pakistan	329

List of Tables

Table 1.1: Research Question and Research Approach	8
Table 2. 1: Advantages and Disadvantages of Traditional System	28
Table 2. 2: Advantages and Disadvantages of D&B	33
Table 2. 3: Advantages and Disadvantages of MC, CM and PM	35
Table 2. 4: Advantages and Disadvantages of Package deals	37
Table 2. 5: Advantages and Disadvantages of Collaborative and Relational Based Procurement	41
Table 2. 6: Advantages and Disadvantages of PFI	47
Table 2. 7: Type of innovation and procurement (Miller et al., 2009)	59
Table 2. 8: Advantages and Disadvantages of Globalisation Considering Construction Industries in Developing Countries (Ofori, 2000)	115
Table 2. 9: Linking Literature Review to Research and Interview Questions	120
Table 3. 1: Various approaches in the Interpretive Paradigm (Source (Maqsood, 2006))	137
Table 3. 2: Research Question and Research Approach	141
Table 3. 3: Process of building theory from case study research. (Source (Eisenhardt, 1989))	146
Table 3. 4: Case Study tactics for four design tests (Source (Yin, 1989))	148
Table 3. 5: Case Study Selection	157
Table 3. 6: Respondent Demographic Information	162
Table 3. 7: Example of Content Analysis	163
Table 6. 1: Summary of Interview Responses	300
Table 7. 1: Factors Affecting Choice of Procurement	301
Table 7. 2: Process of Procurement	302

Abstract

This research investigated the role of procurement practices in effective implementation of infrastructure projects in a developing country like Pakistan. It investigated and explored the issues and barriers to effective implementation of different procurement methods that the organisations used, the environment and its suitability for implementing different forms of procurement in context of public sector in Pakistan and the relationship it had to successful project outcomes.

The research was carried out in two stages. In the first stage archival analysis was conducted of government documents, reports including reports by international organisations, policy documents and literature. As a result of this it was found that there are two different methods of procurement used for procuring infrastructure projects in public sector in Pakistan i.e. the traditional method for example competitive design-bid-build and the non-traditional method for example Public-Private-Partnership (PPP).

During the second stage case studies were selected based on archival analysis. A total of 6 public sector organisations had been selected as organisational case studies and 8 projects had been selected among these organisations as project case studies. Out of the 6 organisations 5 were federal government and 1 provincial government organisation. The organisational coverage of sub-sectors of infrastructure includes transport, water and power sub-sectors. Geographically the organisations and projects covered all four provinces and tribal areas as well as the state of Azad and Jammu Kashmir. Projects were selected on the basis of procurement method. Out of the total 8, 3 of the projects were on Build-Operate-Transfer (BOT), 2 projects on Build-Own-Operate (BOO), 1 project on Build-Own-Operate-Transfer (BOOT) (only BOOT project in Pakistan) and 2 projects on traditional method of procurement were selected. A total of 24 respondents participated from these 6 organisations. The case studies were analysed using qualitative content analysis techniques of the in depth interviews. Cross case analysis had also been carried out based on looking at the similarities and differences across similar as well as different methods of procurement.

As a result multiple issues have been identified which affected the choice of procurement. The barriers and constraints to implementation of procurement have also been described in detail. It was reported that the procurement practice had a direct impact on successful project outcomes in case of public sector infrastructure projects in Pakistan. As a result of this analysis a road map of the on going processes and practice of procurement in public sector in Pakistan has been created which vividly portrays the issues and barriers of the procurement practice in Pakistan.

Chapter 1

Introduction

This research is descriptive and qualitative in nature. It investigates the role of procurement practices in effective implementation of infrastructure projects in a developing country like Pakistan. The main objective of the research is to investigate the procurement strategies, practices, routes, methods and systems in developing countries which have been under explored and this research attempts to investigate and explore what these practices are and how it is affecting successful project outcomes. The intent of this research is to investigate and explore the issues and barriers to effective implementation of different procurement methods that the public sector organizations come across. Also this research intends to investigate the environment and its suitability for implementing different forms of procurement in context of public sector in Pakistan. The theme of the research is qualitative involving an in-depth investigation of public sector procurement practices in developing country i.e. Pakistan.

The aim of the research is to assist senior public sector management to better understand the importance of selecting an optimal procurement route and the perils that may lie in the path of its implementation. This is achieved through developing a procurement roadmap that provides a vivid picture of the obstacles and barriers to effective implementation of infrastructure projects in Pakistan. Another primary aim of this research is to steer and spark the interests of academia and in particular academia of Pakistan and to bring back Pakistan in domain of academic research especially the field of project management which is severely lacking.

This chapter provides an overview and outlines the scope of the thesis. It explains the research background, the rationale for the research, research objectives, research questions, research methods along with the scope and limitation of this research.

1.1 Background

The general conception is that the acquisition of resources is procurement, but in fact as Walker & Rowlinson (2008) states that it is only a part of the procurement system and have termed it as “the contract strategy”. There are five key principles of procurement as described by Raymond (2008) they include: 1) value for money (VFM), 2) ethics, 3) competition, 4) transparency, and 5) accountability. Procurement involves other issues such as culture, leadership, management, economics, environmental, ethical and political issues (Walker & Rowlinson, 2008). They further state that value triggers throughout the project management supply chain, the generation of value can be designed into the procurement process. Although the current industry climate is highly diverse and rapidly evolving, there are still relatively few procurement systems to choose from. Each procurement system that is available delivers project success to a variable degree (Bowen *et al.* 1997; Tookey *et al.* 2001). Evolution of procurement in project management in the construction industry has arisen from a number of factors which has resulted in forcing the construction industry into a position where it has to change to survive (Walker & Rowlinson, 2008). As Tookey *et al.* (2001) state that today there are a number of different types of procurement routes available to choose from. Each different type of procurement (traditional approach, design and build (D&B), build-operate-transfer (BOT), management contracting, Public-Private-Partnership (PPP), etc.) has its own proponents and inherent strengths and weaknesses but the underlying question that arises is which one is the best choice? The Selection of optimal procurement systems has been found to be difficult, because even experienced clients cannot know all the potential benefits and risks for each system. Procurement is, therefore, a succession of calculated risks (Tookey *et al.*, 2001). Walker and Rowlinson (2008) suggest that the project procurement choice can be guided by the project typology and the degree of collaboration and integration between the supply chain parties and their relationships. The current process of procurement selection tends to be carried out in a rather unstructured and cursory manner, and this may give rise to the adoption of procurement system beyond the deliberate choice (Masterman, 1992; Luu *et al.* 2003). The result of employing an imprudently selected procurement method could be an impediment to the realisation of certain anticipated benefits associated, and might eventually lead to project failure (Naoum, 1994; Sharif and Morledge, 1994; Rwelamila and Meyer, 1999; Ambrose and Tucker, 1999; Luu *et al.* 2003). Inappropriate procurement strategies may lead to cost and time overruns claims

and disputes on projects (Masterman, 1992; Abdel-Meguid and Davidson, 1996). Conversely, appropriate procurement strategies are needed to help achieve optimal solutions in terms of cost, time and quality. They can also contribute positively to other aspects of performance, such as meeting agreed targets (Jagger, 1995).

1.2 Rationale for the Study

The literature on project procurement practices and processes is in abundance with adequate discussion on the effects that procurement may have on success project outcomes. However, they are all in the context of the developed countries and not in the context of the developing countries.

The following sections provides the rationale for conducting this research starting from the importance of construction industry, the need for further research in developing countries and end by stating the need for research in Pakistan.

1.2.1 Importance of Construction in Developing Countries

According to Ofori (2006) the construction industry is an important sector of the economy which makes a significant contribution to gross domestic product (GDP), capital formation, and employment (Hillebrandt, 2000); and has backward and forward linkage effects with several other sectors (World Bank, 1984). As it produces the nation's physical infrastructure and other productive assets, the industry is of critical importance in the national development of developing countries (Ofori, 2006). According to Turin (1978) in the majority of developing countries construction activity is dominated by infrastructure he further adds that in the developing countries value added in construction accounts for only 3-7% of gross domestic product (GDP), the total value of new construction work represents anything between 45 and 65 % of gross domestic capital formation (Turin, 1978). Turin (1973) found that the proportion of civil engineering works in the total construction output of developing countries was higher than that in their industrialized counterparts. Ofori and Han (2003) observed that the mix of construction demand (and output) changes as an economy develops. Developing countries need to embark on extensive infrastructure provision in order to achieve and sustain economic growth and aspire towards the standards of the developed economies (Quartey, 1996). He further states that the methods used in developing countries to procure projects and implement them are not in tune to achieve

successful operation of projects. From the above discussion it is clear that construction is of great importance in economic development and there is a need for understanding of procurement practices in developing countries for better implementation of projects.

1.2.2 Need for Further Research in Developing Countries

The established procurement processes in developing countries hinder project success (Frimpong et al, 2003). Further research is required in developing countries at the level of individual construction-related subjects such as procurement (Ofori, 1993). It is the failure of the research undertaken so far to advance the field of knowledge which is a contributory factor for poor performance of construction industry in developing countries (*ibid*). The project procurement and administrative arrangements currently in use in developing countries have been inherited from developed Western countries which have a different history, culture, collective experience and breadth of construction expertise (Ofori, 2000). It is ironic that the countries of origin of these procurement arrangements have changed their approaches (*ibid*). For example, in the UK Latham (1994) who after a comprehensive review of the UK construction industry, advocated the building of trust and a spirit of partnering in an industry characterised by mistrust, rivalries and adversarialism (Ofori, 2000). According to Taylor et al (1999) “the transactions and activities of human kind have long been modelled on the experiences of the developed world. It has historically been assumed that norms and systems arising from a particular set of experiences in the developed world can be readily adopted by developing countries. They further state that developing countries frequently confirmed the unsuitability of “normative or procedural models whose evolutionary context is not their own” which may be sound in principle but which are founded on inappropriate paradigms (Taylor et al., 1999). They further add that “uniqueness derives from national capacity to respond and the context within which that response occurs” (Taylor et al., 1999). The developing countries should develop and apply appropriate procurement systems which suit their culture and business traditions (Ofori, 2006).

Rwelamila et al (1999) showed that the failure to consider and incorporate cultural traits in the procurement systems of construction project is a major contributor to the generally poor performance of projects in developing countries. There is a need to learn to do things differently, to rethink the process through which construction industries deliver their projects with the aim of achieving continuous improvement in

their performance and products (Rwelamila et al., 2000). They further suggest that to achieve the dramatic increases in efficiency and quality that are both possible and necessary there is a need to start questioning current and emerging procurement approaches. They state that it is of paramount importance that there is a need to accept the reality that developing countries construction industries problems need their own solutions and these solutions should be appropriate to their construction environment. There is a need to find local solutions to procurement problems of developing countries and which can only be achieved with country specific research. Toor and Ogunlana (2008) suggest that more studies should be conducted in other countries to account for the nature and structure of the local construction industry, scale of construction projects, procurement strategies, maturity of the concerned organizations, and local cultural values and norms. Also, ever changing socio-economic and cultural changes have been growingly perplexing and the globalization of the construction industry has posed numerous challenges to the concerned players at all levels (Lewis, 2006; Ofori, 2007; Raftery et al., 1998). The circumstances of the developing countries should be taken into consideration by researchers (Ofori, 1993). Ofori (1993) notes a lack of progress in the field of construction research in developing countries. He states that there are indications that the field of study has failed to develop (Ofori, 1993). There is a need to gather data and conduct studies to gain a better understanding of what actually happens in the construction industry in general and project procurement in particular in developing countries.

1.2.3 Need for Research in Pakistan

In Pakistan, construction sector is an important sector although not working to its fullest potential but still of prime significance to the country (Azhar et al, 2008). The construction industry of Pakistan constitutes around 2.4 percent of Gross Domestic Product (GDP) (FBS, 2011). Growth in this sector is critical for growth in national income as it is among the largest sectors that generates employment within the country as well as a key driver for economic development of Pakistan (Azhar et al, 2008). The construction industry in Pakistan employs almost 3.3 million people (FBS, 2011). Like many other developing countries, Pakistan is also facing critical project management related issues (Azhar et al, 2008). They suggest that procurement is a major factor for cost overruns in projects in Pakistan and further research should be conducted to find out the impact of procurement on project success.

According to Lodi et al (2009) the root cause of construction non-performance in Pakistani construction industry can be attributed to the low-bid project procurement system. In Pakistan most contracts (75 - 99% private projects and 100% public projects) are awarded to the lowest bidder based on open competitive bidding (with no negotiations). The minimum cost overrun range observed by them was as high as 51-60% of initial estimated cost while some projects even showed a cost overrun greater than 100% of their contracted amount. Furthermore they found that the ranges of cost overruns for public projects were found to be higher than those for privately funded projects. According to them the range of cost overrun was even greater than 100% for a substantial proportion of public projects in Pakistan. They found that about more than 80% of both the time delay and cost overrun of projects in Pakistan can be attributed to inappropriate contractor selection. Their research has helped identify the root causes of underperformance of Pakistani construction industry the major root cause being procurement related (Lodi et al., 2009).

Saqib et al (2008) found out that procurement related factors such as project delivery system, project bidding method and project contract mechanism were rated as most significant factors and procurement related factors were rated among the top five critical success factors categories in Pakistan (Saqib et al, 2008). They suggest that there is a need for further study regarding research on procurement and project success in Pakistan which will be useful in implementing projects successfully (Saqib et al, 2008). Khan et al (2008) states that much of the research remains to be done on the link between procurement of projects and its effective implementation in Pakistan. They expect that further research within Pakistan could reveal more prospective information on the existing mechanisms of procurement of projects in Pakistan and the means for improving the implementation of projects to achieve successful outcomes for the benefits of all the stakeholders and general public (Khan et al, 2008).

1.3 Problem Statement

What is the role of procurement practices in effective implementation of infrastructure projects in Pakistan?

1.4 Research Objectives

The rationale and problem statement developed in the above section lead to following set of objectives.

- 1 Identifying the different types of procurement practices in Pakistan.
- 2 Investigating the major issues that affect the procurement practice in Pakistan.
- 3 Investigating the perception about different procurement practices to deliver successful project outcomes.
- 4 Identifying the barriers to effective implementation of procurement systems.
- 5 Identifying the challenges Pakistan face and conduciveness of the environment to adopting modern procurement methods and systems.

1.5 Research Questions

The research objectives translated into the following queries:

- 1 What are the different types of procurement practices in Pakistan?
- 2 What are the major issues that affect the procurement practice in Pakistan?
- 3 How procurement practices are perceived to deliver successful project outcomes?
- 4 What are the barriers to effective implementation of these procurement systems?
- 5 What challenges does a developing country like Pakistan face while adopting modern procurement methods and systems? How enabled is the environment to accept new and innovative forms of procurement?

1.6 Research Methodology

For the purpose of obtaining necessary data, the researcher employed qualitative research techniques. This decision was based on the rationale and objectives of the study, the required depth of the investigation and dominance of “how”, “what” and “why” questions. Based on the primary research questions posed, the research approach and instrument chosen to achieve the optimal results is tabulated in the

Table 1.1 below. The first objective and research question was answered by archival analysis of government documents. This step helped in identifying the types of procurement methods and practices used in Pakistan. This also facilitated in identification of potential case study projects based on the type of procurement method used. Once the case study projects had been identified and selected, the remaining research questions and objectives were addressed by the in-depth case study interviews. Tools to collect data included interviews, documentation and archival analysis. The research design had been well constructed to ensure that construct validity, internal and external validity and reliability are maintained. The use of multiple data collection methods and analysis techniques provided the researcher with opportunity to triangulate data in order to strengthen the research findings and conclusions. The aim was to categorize, tabulate and recombine data to address the initial questions and purpose of the study, conduct cross-checks of facts and discrepancies. The information was placed by creating arrays, creating matrices of categories, creating flow charts or other displays. In all cases the researcher aimed to treat the evidence fairly to produce analytical conclusions answering the original “how” and “why” research questions. The case studies were selected on the basis of project procurement method, sectors of infrastructure, geographic location and the level of government i.e. Federal and Provincial levels. The detailed methodology that has been adopted is discussed in the Research Design Chapter in this thesis.

Table 1. 1: Research Question and Research Approach

Serial No.	Primary Research Question	Research Approach	Research Instrument
Q1.	What are the different types of procurement practices in Pakistan?	Archival Analysis	Document Analysis
Q2.	What are the major issues that affect the procurement practice in Pakistan?	Case Studies	Interviews
Q3.	How procurement practices are perceived to deliver successful project outcomes?	Case Studies	Interviews
Q4.	What are the barriers to effective implementation of these procurement systems?	Archival Analysis & Case Studies	Document Analysis & Interviews
Q5.	What challenges does a developing country like Pakistan face while adopting modern procurement methods and systems? How enabled is the environment to accept new and innovative forms of procurement?	Archival Analysis & Case Studies	Document Analysis & Interviews

1.7 Research Scope and Limitations

The objective of this research was to provide a detailed explanation of the types of project procurement practices in Pakistan, the differences in these practices, and use this information to explain whether they impede or facilitate in successful project outcomes. The construction industry of Pakistan like most developing countries is broadly divided into two sectors i.e. the informal sector and the formal sector. The informal sector is not recorded in the economy, it is the part of an economy that is not taxed, monitored by any form of government, or included in the national income, unlike the formal sector. The formal sector consists of Public and Private sub-sectors. In Pakistan like most countries the public sector is a major procurer of construction goods and services. Public sector construction projects can be broadly divided into three main categories such as infrastructure, buildings and repair and maintenance. The focus of the study is illustrated in Figure 1.1. below. The unit of analysis is the basis for the case and for this study, it is the procurement of infrastructure projects in public sector in Pakistan and that is the boundary of this research.

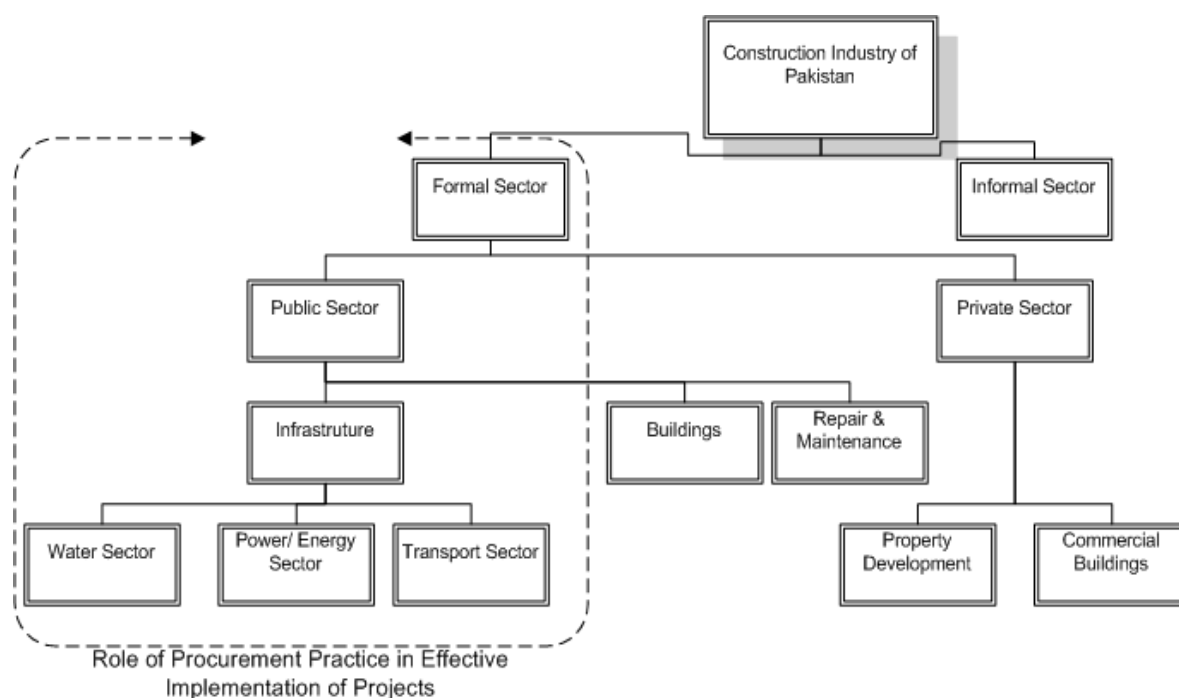


Figure 1. 1: Focus of the Study

The main arguments for choosing case studies for the research strategy are the descriptive nature of the research (not requiring control of events but rather

documenting them) and the dominance of “how” (and exploratory “what”) questions. Although the research questions were reformulated by the researcher several times during the literature review process but these arguments have remained valid throughout the study. The researcher’s aim and desire was to gain insight into the procurement of projects in Pakistan and the factors influencing the practice of procurement as well the relationship of procurement to successful implementation of projects. This implied that a very comprehensive research design was required as a large number of factors needed to be considered. This reinforced the argument that a qualitative approach is more suitable for this research.

1.8 Research Outcomes

There is a general consensus that a well suited and well tailored procurement system influences successful outcomes for the project, again this understanding holds for developed countries. There is limited literature that discusses the foregoing in the case of developing countries like Pakistan. This research explored the different types of procurement methods in Pakistan. The study therefore investigated and evaluated the nature and extent of the relationship between procurement practices, processes, and its perceived impact on successful project outcomes in context of Pakistan. This research has reviewed how the construction procurement in Pakistan (a developing country) is evolving, what is the emphasis of construction project procurement in Pakistan. It has ascertained whether the procurement systems at present being practiced in the country are they appropriate in the context of development. The research has provided a thorough assessment of factors which impact procurement activity in Pakistan and has provided an investigative analysis of the operating realities of procurement practice in Pakistan.

The study provides a good and solid foundation for project managers and also project sponsors or patrons, to think about what could be the required type of procurement method and route and the effect it can have on project outcomes and performance. A further key implication of the research would be why projects might fail owing to procurement related issues in developing countries like Pakistan. This research study hopes to guide the government policy makers about the array of various procurement routes and how to select an effective procurement route for a certain project. The findings from the research is also of benefit to the international funding agencies and

non-governmental organisations in developing countries with issues analogous to Pakistan, consequently assisting in improving their procurement management practices of projects in developing countries.

This study has contributed towards the creation of new knowledge in this area and has identified future directions of further research emanating from this research. This knowledge can be capitalised upon by other developing countries having comparable issues to Pakistan. The ultimate goal of the research was to better inform the decision making-process while contributing to the existing body of knowledge.

1.9 Structure of the Thesis

This thesis is divided into eight chapters. It starts with the introduction to the thesis in chapter 1 followed by literature review in chapter 2 and research methodology and design in chapter 3. The data analysis starts from chapter 4 and finally concludes the research in chapter 8. A brief summary of these chapters are given below:

Chapter 1 gives an introduction about the thesis. It starts by the introduction and background of the problem and then goes on to describe the rationale behind this research. Subsequently the chapter discusses the research objectives and the questions that this research addresses. A brief discussion is also presented on the adoption of methodology for this research, the scope and the limitation of this research and outcomes of the research.

The purpose of the chapter 2 is to provide a review of literature and research in different areas of procurement related to this research. The literature review is structured in stages, the initial stage was to define the topic and relevant terms, the second stage was to explore the literature in the context of the developed countries, third stage was to explore literature in the context of the developing countries while the final stage of the literature review is the outcomes which the researcher has deduced from conducting this examination of theory and literature. The chapter also provides a literature review summary sheet in which it is shown how the different research questions and subsequent interview questions are linked and connected to the literature. Finally the chapter concludes with a brief background about Pakistan its history, government and politics and the prevailing security situation in Pakistan.

Chapter 3 explains the research methodology and design that was used to carry out this research. The chapter starts with the discussion on research, philosophical perspective and paradigms of research followed by a discussion on research approach and strategy. Subsequently the argument is made about the selection of an appropriate methodology for this research. The next section of the chapter describes the research design for the research. This is followed by the discussion on the data collection and analysis techniques and is illustrated along with the example of data analysis. The last section of the chapter discusses about the reliability, validity and ethical standards of this particular research.

The purpose of chapter 4 is to present results of archival analysis conducted during this research. In this chapter through archival analysis the regulating environment and the legal and institutional arrangement of infrastructure procurement in public sector in Pakistan has been described. The framework and mechanics for project approval and procurement and the methods of procurement have been explained both for traditional and non-traditional procurements in Pakistan. At the end an analysis of the process of procurement and the institutions involved along with the regulating environment has been discussed.

The aim of chapter 5 is to present the description of the case studies selected for investigation by the researcher for this research. A total of 6 public sector organisations have been selected as organizational case studies and 8 projects have been selected among these organizations as project case studies. In this chapter each organisation's and project's details are provided such as the structure of the organisations, functions and responsibilities along with case project details.

The purpose of chapter 6 is to report on the results of individual case studies including both the organisational and project case studies based on the interviewee responses of the respondents and content analysis techniques. Each individual case study is dealt with separately independently. The issues identified in each case study are presented which includes both the issues in selection as well as implementation of procurement. In Chapter 7 the cross case analysis of the case study organisations is presented. The cross case analysis is based on two tactics firstly to select categories and look for within-group similarities and difference based on similar method of procurement. Secondly to list similarities and difference between on all case studies identified. The

aim here is to efficiently portray the big picture of procurement practise and enable the comparison of different cases which would not have been possible otherwise. The chapter end with a vivid portrayal of the road map of procurement in Pakistan.

Chapter 8 which is the last chapter of this theses starts with the discussion about the findings of this research thesis. The findings are discussed against the research objectives envisaged at the start of the research. Subsequently the chapter discusses about the recommendations proposed by this research, followed by the contribution of knowledge and the limitations of this research. Lastly, the chapter proposes the recommendations for future research.

1.10 Chapter Summary

The chapter is an introduction to the doctoral study “Investigating the role of procurement practices in effective implementation of infrastructure projects in a developing country: a case of Pakistan”. The main premise of this research is that there is a dire need for research regarding developing countries and in particular issues in their particular context and especially in the context of their construction industry which has largely been ignored by literature. After establishing the research rationale, this chapter states the research objectives and lays down the research questions and research proposition i.e. to identify the different types of procurement practices in Pakistan, the major issues that affect the procurement practice in Pakistan and the perception about different procurement practices to deliver successful project outcomes. This research also identifies the barriers to effective implementation of procurement systems in Pakistan as well as identifies the challenges Pakistan face and conduciveness of the environment to adopting modern procurement methods and systems. The primary methods for investigation choosen are archival analysis and qualitative case study interviews. The research has provided a thorough assessment of factors which impact procurement activity in Pakistan and has provided an investigative analysis of the operating realities of procurement practice in Pakistan.

Chapter 2

Literature Review

2.1. Introduction

This chapter provides the review of the related literature. Fellows and Liu (1997) suggest that it is essential for the early stages of virtually all research studies to search for and to examine potentially relevant theory and literature. They also state that theory and literature are the results of previous research projects. They define theory as the established principles and laws which have been found to hold and define literature as the findings from research which have not attained the status of theory and often represent findings from research into particular application of theory. The aim of any literature review including this one is to provide the reader information about the 'state of the art' knowledge and main issues regarding the topic which informs and provides rationale for the research undertaken (Fellows and Liu, 1997).

Following the suggestions of Fellows and Liu (1997) that a research requires a systematic approach by the researcher irrespective of what is investigated and the methods adopted. To assemble the literature review for the research topic under consideration, the logical framework that has been adopted is from Fellows and Liu (1997) and is diagrammatically depicted in the researcher's literature review flow chart process in Figure 2.1 as follows:



Figure 2. 1: Literature Review Process (Adapted from Fellows and Liu, 1997)

The literature review is structured as shown in the Figure 2.2 below. It is structured in 4 stages, the initial stage was to define the topic and relevant terms, the second stage was to explore the literature in the context of the developed countries, third stage was to explore literature in the context of the developing countries while the final stage of the literature review is the outcomes which the researcher has deduced from conducting this examination of theory and literature.

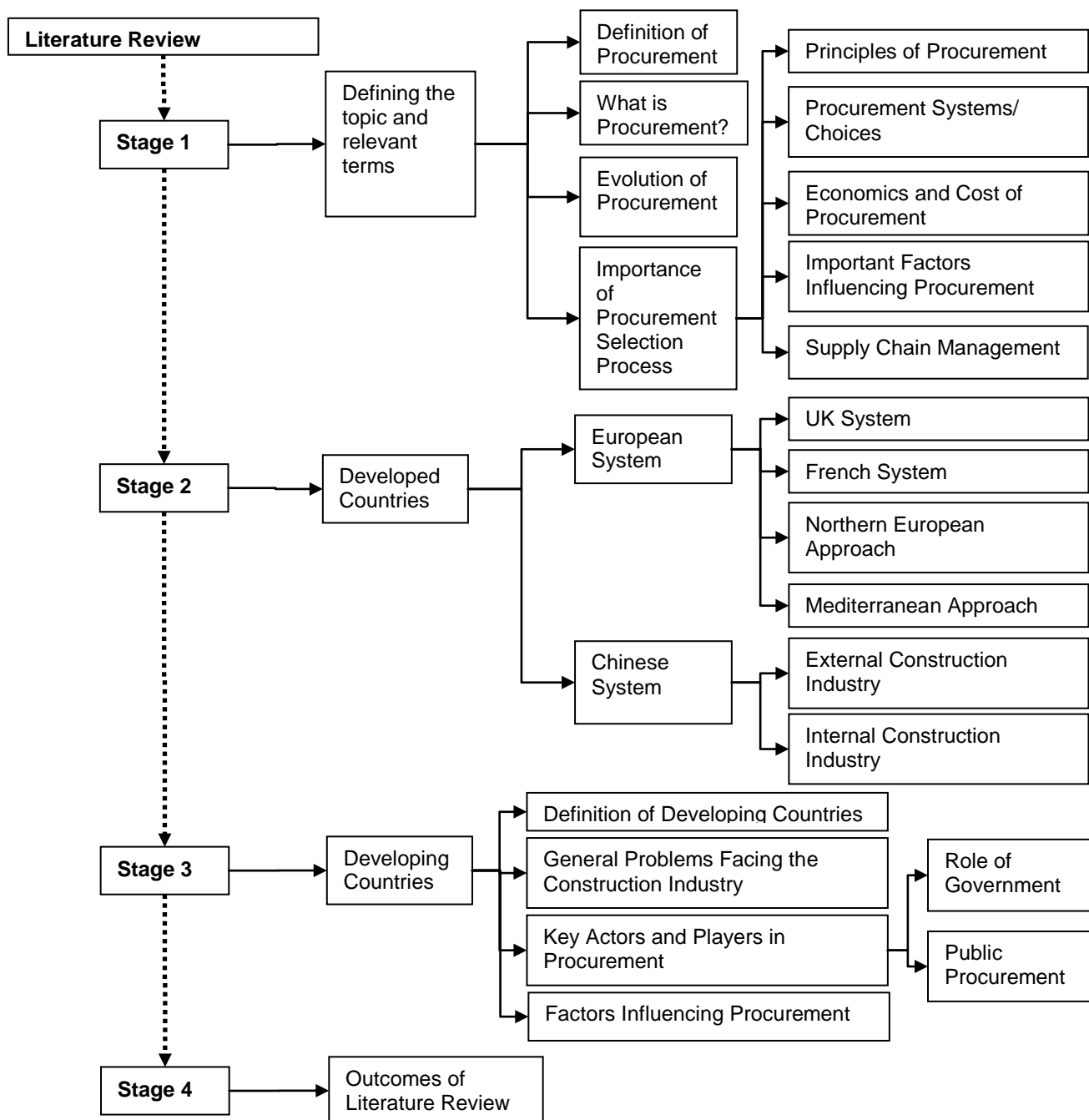


Figure 2. 2: Structure of the Literature Review

2.2. Definitions of Procurement

There are many definitions of procurement and some important ones are given below. The McGraw Hill dictionary of scientific and technical terms defines procurement as “the action or process of acquiring or obtaining material, property or services at the operational level”. The Oxford English Dictionary defines

procurement as the “act of obtaining by care or effort, acquiring or bringing about”. Building Procurement has been identified as “the amalgam of activities undertaken by a client to obtain a building” (Franks, 1984). Construction procurement has been defined by the CIB W92 Working Commission on Procurement Systems as “the framework within which construction is brought about, acquired or obtained” (Sharif and Morledge, 1994). Walker and Rowlinson (2008) suggest that procurement in the context of project management within the construction industry “is about the acquisition of project resources for the realisation of a constructed facility”. The Project Management Body of Knowledge (PMBOK) by Project Management Institute (PMI) defines procurement management as; ‘... the process required to acquire goods and services...’ while the United Kingdom based Association for Project Management (APM) defines procurement as; ‘... the process of acquiring new services or products’. Burke (2007) states that project procurement management deals with the acquiring of goods and services required to perform the project’s scope of work. He further states that these could be drawings, materials, and equipment or professional services from a number of vendors and suppliers, or company departments outside of the project team. According to Love et al. (2002) “procurement is an organisational system that assigns specific responsibilities and authorities to people and organisations, and defines the relationships between the different elements of construction in a project. Project procurement set outs ways in which works are placed in the market and establishes the contractual framework that determines the nature of relationship between the project team members for the duration of their interactions”. In other words, procurement deals with the determination of the relationships between different elements of a construction project and the way it is placed or not placed in the market (Oyegoke et al 2009).

2.3. What is Procurement

The term “procurement” remains broadly defined and is used to describe a variety of entities (e.g., functions, organisations, systems, processes). The term has also evolved through time and continues to do so, as the activities associated with procurement have become increasingly important to enterprise success (Nissen, 2009). According to Nissen (2009) “procurement was once descriptive of the simple clerical activities associated with purchasing well-specified items, but it has evolved

in some organizations to describe instead strategic partnering efforts made by senior executives”.

According to Nissen (2009) procurement involves the activities associated with deciding whether an item will be made in-house or purchased from outside vendors i.e. either to make it or buy it. It involves the selection decision from which vendor or collection of vendors to purchase an item. He further states that procurement represents a central activity in terms of supply chain management, which seeks to integrate the processes and activities of vendors, suppliers, producers, and customers, and organisations are routinely required to shape enterprise strategy based on opportunities to form partnerships, alliances, and joint ventures with “vendors.”

Nissen (2009) suggests that in the context of project management, procurement can be viewed from many ‘lenses’ for instance, he suggest that if procurement is viewed from a functional lens it refers to and depict a division of labour (e.g., buying items vs. making them), specific job tasks (e.g., market research, obtaining vendor quotations), and worker skills (e.g., contract interpretation, negotiation). If viewed from an organisational lens it refers to a specific department or another organisational entity in the enterprise, complete with its own managerial hierarchy, worker roles, and organisational responsibilities. And if it is viewed from a system lens it refers to a system which involves examination of its inputs (e.g., requirements, information), outputs (e.g., purchase orders, received vendor items), transfer function (e.g., vendor selection, vendor management), and environment (e.g., corporation, industry). By viewing from a process lens it refers to a set of processes interlinking vendors, producers, and customers along the supply chain. (Nissen, 2009)

Procurement is usually clouded by a general misconception that procurement is the acquisition of resources only, but in fact as Walker & Rowlinson (2008) states that this “is a part (and only a part) of the procurement system” and have termed it as “the contract strategy”.

2.4. The Evolution of Procurement

According to Rowlinson et al. (2009) construction procurement has evolved across the ages and there are now many different types and categories of procurement routes which have been developed. Project delivery systems have gone through different stages in their evolution (Rowlinson et al., 2009). Dorsey (2004) and Oyegoke (2001) states that in the early 1900s, most construction projects were completed under lump sum contracts (the traditional system) and this trend continued for most the first half of twentieth century with only some limited exceptions developed in the private sector to improve costs, schedules and adversarial relationships through contractor centred approaches (design and build). Dowd (1996) state that construction management (CM) emerged in the 1960s but fully developed in the 1970s in the UK due to the economic recession at that time, according to Dorsey (2004) the consultative design and build was also developed in the 1970s while program management emerged in the 1980s. The reason reported by Dorsey (2004) for the emergence of new routes was that clients sought more efficient ways to complete complex projects. According to McDermott and Khalfan (2006) other management-oriented approaches like partnering and framework agreements (FA) based upon the concepts of teamwork, integrated teams and collaborative working arrangements became more prominent during the late 1990s and early 2000s. Krubasik and Lautenschlager (1993) categorised different forms of co-operation from mergers and acquisitions to core business joint ventures, sales joint ventures, production joint ventures, product swaps, production licenses, technological alliances and development licenses. Krubasik and Lautenschlager (1993) and Rowlinson et al (2009) further highlight the objectives of co-operation which include development of new markets, sharing of up-stream risks or development costs, leapfrog product technology, increased capacity utilisation, exploitation of economies of scale, filling product-line gap or penetration of new geographic markets. The above discussion regarding evolution of procurement can be illustrated with the help of a diagram as shown in Figure 2.3 below.

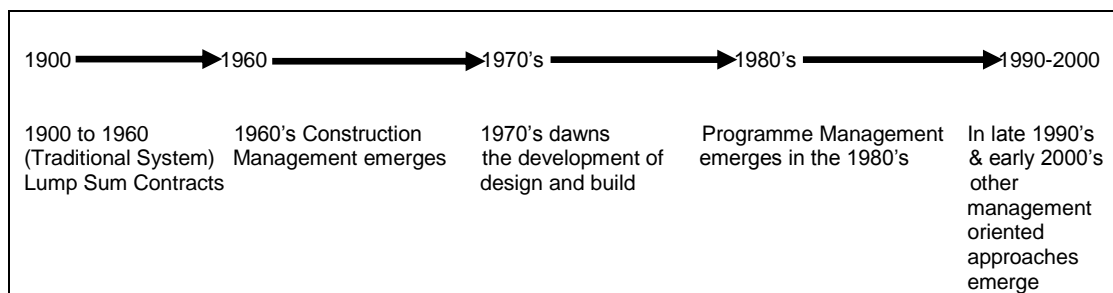


Figure 2. 3: Evolution of Procurement

2.5. Principles of Procurement

Raymond (2008) provides five key principles of procurement: 1) value for money (VFM), 2) ethics, 3) competition, 4) transparency, and 5) accountability. Procurement involves other issues as well such as “culture, leadership, management, economics, environmental, ethical and political issues” (Walker & Rowlinson, 2008). The five key principles of procurement as described by Raymond (2008) are discussed below.

2.5.1. Value for Money (VFM)

According to Raymond (2009) value for money (VFM) is the most important principle of procurement. Her Majesty's (HM) treasury (2003) in the UK defines VFM as “the optimum combination of whole-life costs and quality (or fitness for purpose) to meet the user requirement”. Pitt et al (2006) suggest that value for money should not be taken as least cost. They further suggest that there is a need to ensure that quality standards are maintained and a full evaluation of the costs and benefits on a whole-life basis should always be undertaken, including an assessment of risk, to all stakeholders. According to them VFM is a very broad concept encompassing a range of factors, and it is very important to understand the implications it has for the construction sector. Bauld and McGuinness (2006) state that although VFM criteria often seems self explanatory, benchmarking VFM and especially in the public sector can be difficult as it is technically complex and requires sophisticated understanding and there is no universally accepted methodology to follow. The client is at liberty to consider other criteria than the lowest price; for example technical capabilities, qualifications of key personnel, and past performance records in awarding contracts to potential suppliers (Cummings and Qiao, 2003). Palmer

and Butt (1996) talks about the barriers to VFM and suggest that some of the barriers which need to be overcome in order to achieve VFM are weak governing bodies, politics, tradition, and lack of education and training programmes. VFM in the public sector entails consideration of the contribution to be made to advancing government policies and priorities while achieving the best return and performance for the money being spent (Bauld and McGuinness, 2006).

2.5.2. Ethics

According to Raymond (2008) ethics is another important principle of procurement. De George (1990) defines ethics in general as being 'a systematic attempt to make sense of our individual and social moral experience, in such a way as to determine the rules that ought to govern human conduct...' To Walker et al. (2008) and Preston (1996) ethics is concerned with what is right, fair, just or good; about what we ought to do, not just what is the case of what is most acceptable or expedient. Atkinson (2003) states that purchasing professionals are held to higher standards of ethical conduct than people in other professions and gives an interesting account purchasing professional awareness in United States of America (USA) about ethical and legal standards involved in procurement. He states that out of the 500,000 professional purchasing people in USA and only 10 per cent are or have been members of a professional Supply Chain Management Association which trains members in purchasing ethics while the rest are not even aware that there are ethical and legal standards involved in procurement. (Atkinson, 2003)

Rege (2001) state that studies have shown that the practice of making financial contributions to party funds or to members of parliament in order to secure benefits are prevalent in both developed and developing countries. However Raymond (2008) suggests that procurement related corruption tends to be a serious problem in developing countries rather than in developed countries. She elaborates this with findings from World Bank studies which put bribery at over \$ 1million per year accounting for up to 12 percent of the GDP (Gross Domestic Product) of nations like Nigeria, Kenya, Venezuela (Nwabuzor, 2005) and Sri Lanka (Raymond, 2008). Raymond (2008) also suggests that the main cause of

corruption in these countries is due to poverty which according to her has resulted in corruption among government procurement officials in developing countries such as Bangladesh, India, Sri Lanka, Nigeria and Venezuela. Another main aspect at root cause of corruption as stated by Nwabuzor (2005) and Raymond (2008) is that there is a weak enforcement of the rule of law in these regions, and therefore urgent measures are needed to cope with the corruption in developing nations. There is corruption in the bidding and estimating process for the procurement of these facilities in developing countries (Nwabuzor, 2005). Transparency International (TI) an independent organisation based in Germany is investigating corruption in business (Raymond, 2008). Transparency International has developed a ranking system for the construction industry, and countries such as China, India, Pakistan and Russia appear to be corrupt nations (Tandoor and Koehn, 2004). However, countries such as Sweden, Switzerland, Austria, Netherlands, and Australia appear unlikely to be involved in corruption (Tandoor and Koehn, 2004).

2.5.3. Competition

Raymond (2008) stated that competitive tendering is the means by which most goods and services are procured. She further states that competitive tendering involves processing of bids and a technical evaluation committee evaluates whether bids are in accordance with requirements as stipulated in tender conditions. She suggest that in this process competition occurs as the credibility of the bidder in carrying out previous contracts of similar nature, the price are compared across the bidders and the most competitive bidder is awarded the tender. According to Erridge et al (1999) the most important information source for suppliers and bidders is the tender advertisement. They further state that provision of inaccurate data and information often result in misunderstandings and increased costs, they suggest that the better the quality of information provided in the tender advertisement the less likely it results in an unsatisfactory purchase. They believe that competitive tendering avoids accusations of favouritism and fraud, while the openness of the system encourages more suppliers to participate and the increase in competition help reduce prices, improve quality and lead to greater competitiveness among suppliers. Raymond (2008) suggests that procurement rules assist in the creation of competition

markets and benchmarks, while reform efforts in this area improves quality and lead to greater competitiveness among suppliers.

2.5.4. Transparency

According to Raymond (2008) the function of transparency is also important in procurement and it refers to openness. Smith-Deighton (2004) state that transparency is an essential aspect of ensuring accountability and minimizing corruption, and has gained prominence in Organizations for Economic Cooperation and Development (OECD) countries, and is particularly associated with the rise of the governance agenda as transparency is a core governance value.

Government procurement is one area where corruption is rampant in both developing and developed countries (Raymond, 2008). She further state that “the recipients of clandestine payments may not only be the officials who are responsible for decision making but also ministers and political parties”. Transparency requires governments to adhere to higher standards of conduct by ensuring that conduct to be open to scrutiny (Smith-Deighton, 2004). Rege (2001) states that the obligation to invite tenders, the transparency of the procedures used in awarding contracts and the right with which the agreement is given to aggrieved suppliers to challenge the decisions restrain both domestic and foreign suppliers from making under-the table payments and deter public officials and political parties from receiving such payments (Rege, 2001). Transparency in construction procurement both in the public and private sectors provides an assurance for both domestic and foreign investors that contracts will be awarded in a fair and equitable manner (Raymond, 2008). In all markets, a lack of transparency in the sense of absence of information on rules and practices could operate as a barrier to trade and may affect foreign suppliers more than local ones (Arrowsmith, 2003). These rules also ensure that goods and services are obtained at the most economic prices and thus lead to a reduction in costs (Raymond, 2008). According to Rege (2001) the most important benefit of transparent and open procedures is the impact which their adoption may have on the level of corruption in countries where it is widespread. Therefore, transparency promotes trust by allowing stakeholders to

see and judge the quality of government actions and decisions (Smith-Deighton, 2004).

Studies have found that corruption has a link with globalisation, foreign direct investment and award of government contracts. For instance Raymond, (2008) gives an example of a study by Shang-Jin Wei of Harvard University, in which he has found a link between the perceived level of corruption in a country as measured by Transparency International's Corruption Perceptions Index-and the level of foreign direct investment. Petrie (2001) found out that the increase in corruption level within a country to that of another country was equivalent to raising the tax rate by substantial percentage points. Arminas (2002) found that globalisation had resulted in exposure to bribery and corruption. Rothery (2003) states that there is an increasing demand for transparency worldwide and corruption is very strongly linked to the award of government contracts. He further states that transparency is best achieved through practicing clear and consistent regulations and public tendering which he states to be the international best practice in procurement.

2.5.5. Accountability

Raymond (2008) states that accountability is an important principle of government procurement and comes into play at both the national and international levels. At the international level, governments are often involved in trading activities and procure goods and services such as defense equipment, provide or receive aid, and operate diplomatic posts in other nations (Department of Foreign Affairs and Trade, 2006) and according to Raymond (2008) the conduct of these activities results in financial risk exposures, and accountability problems. She further states that at the national level public sector managers have to deal with a more competitive environment than has been the common practice in the past. Barrett (2000) states that managing the risks associated with this complex competitive environment have given rise to accountability problems. Raymond (2008) suggests that the reason for this is due to the non clarity of the roles and responsibilities of the participants in the process of procurement. Barret (2000) says that the concept of accountability does not apply to the public sector only. Stewart (1999) differentiates between

private sector and public sector accountability by stating that public servants have to take the influence of politics into consideration in the implementation of their duties while the private sector gives more attention to the market mechanism. Gunasekan (2005) says that the general public at large was also increasingly demanding greater accountability and better service from the public sector.

2.6. Importance of Procurement Selection Process

A number of researches have established that one of the principal reasons for the poor performance of the construction industry is the inappropriateness of the choice of procurement system (Skitmore & Marsden, 1988). Numerous researches have been undertaken in an attempt to devise a selection system to choose the most appropriate procurement option for any project (Nahapiet & Nahapiet 1985; NEDO 1985; Skitmore & Marsden 1988; Franks 1990; Bennett & Grice 1992). Bowen et al. (1997) and Hewitt (1985) state that different category of clients determine project success by different criteria, and they suggest that it is necessary to be aware of these various groupings and their characteristics in order to assist in the selection of the most appropriate procurement system for a particular project. Success in this context refers to the extent to which the client's objectives are met in terms of time, cost and quality performance (Bowen et al, 1999).

Over the years a number of factors have combined which has forced the construction industry into a position where it had to change to survive (Walker and Rowlinson, 2008). Various authors point to changes in construction project procurement and attribute them to the changing demands of clients (Ball 1988; Franks 1990; Hillebrandt & Cannon 1990). As a result of which today there are a number of different types of procurement routes available to choose from (Tookey et al., 2001). They further state that each different type of procurement approach has its own proponents and inherent strengths and weaknesses. But the underlying question which arises is that what is the best choice? According to Tookey et al (2001) selecting an optimal procurement system is difficult, because even experienced clients cannot know all the potential benefits or risks for each system. They state that procurement is therefore a succession of calculated risks. Masterman (1992) states that the way in which many clients and their professional advisors select at times the method for project procurement can be haphazard, ill-

timed and lacking in logic. Masterman (1992) and Luu (2003) state that the current process of procurement selection has a tendency to be implemented in an unstructured and cursory manner, and according to them this gives rise to the adoption of procurement system beyond the optimal and deliberate choice. Authors such as Naoum (1994); Sharif and Morledge (1994); Rwelamila and Meyer (1999); Ambrose and Tucker (1999) and Luu et al (2003) suggests caution and prudence in needed while selecting any procurement method, as a procurement method which has been imprudently selected can lead to non-realisation of benefits of the project and can eventually lead to project failure. Masterman (1992) and Abdel-Meguid and Davidson (1996) advocates that an inappropriate procurement strategy for a project may lead to cost and time overruns, claims and disputes. Luu (2003) suggest that appropriate procurement strategies are needed to help achieve optimal solutions in terms of cost, time and quality while Jagger (1995) argues that appropriately chosen procurement route can also contribute positively to other aspects of performance, such as meeting agreed targets. Walker and Rowlinson (2008) suggest that the project procurement choice can be guided by the project typology and the degree of collaboration and integration between the supply chain parties and their relationships.

2.7. Procurement Choices /Systems

Hughes et al (2006) states that in the construction industry procurement has become complex and difficult. According to them the increase in complexity and level of difficulty is because it refers not only to what is bought, but also to a diverse array of methods for acquiring a huge range of buildings and infrastructure facilities. They recommend that before developing a general view of how procurement options differ, it is useful to identify the main features of current procurement approaches, methods, models and frameworks. According to them there are various methods of contracting and/or funding, various methods of selection and various methods of payment. In order to understand the different methods of procurement in the construction industry the advice rendered by Hughes et al (2006) is followed. The sections below provide an understanding of different method of procurement used in the construction industry.

2.7.1. General contracting or Design-Bid-Build (the Traditional Approach)

In general contracting or as it is usually known as design-bid-build and is the traditional approach to procurement in construction. In this method the design is provided by independent consultants who are engaged in direct contracts with the client or (in the public sector) designers that are part of the client organisation (Hughes et al., 2006). They further state that a separate contract for the construction of the project is placed with a contractor, who may then sub-let elements or parts of the work. Regarding the payment Hughes et al (2006) state that the payment mechanism followed in this method is usually on a monthly basis, based on how much work has been done to date, in relation to a tendered lump sum, based on unit rates in a contractual bill of quantities. Regarding selection process they state that selection in this method is normally by competitive tendering process, usually the tender list is often pre-selected or pre-qualified, but it also can be open (Hughes et al, 2006).

Murray and Langford (2009) also points out the key feature in this method of procurement which is the separation of design from construction with the sequence of events being design-tender-build/construct, and the design phase being divided up into roles or specialist consultants. They further state that in this system the lead designer has a key role in leading the design function and managing the project. They also suggest that the project delivery company is likely to be selected by competitive tender, and the work of delivering the project has a likelihood of being subcontracted to specialist trades.

Murray and Langford (2009) also state that because of the dissatisfaction with the traditional method and the elongated and disputatious process the Accelerated Traditional model came into being. They say that this model can and often is replaced with a fast-track model that overlaps design and construction. They further state that in the Accelerated Traditional model project work starts as soon as sufficient design is available and the design work is carried out with the same range of consultants, but the contractor is selected by a negotiation or a pricing of a schedule of likely combinations of materials and processes. Murray and Langford (2009) also states that with the difference

stated above the roles and relationships are almost the same as those in the traditional model.

2.7.3.1. Advantages and Disadvantages Traditional Approach

The main advantages and disadvantage of a traditional approach are tabulated as follows in Table 2.1 which has been adapted from Francis and Sidwell 1996; McGeorge and Palmer 1997; Walker and Hampson, 2003; Morledge et al, 2006 and Murray and Langford, 2009:

Table 2. 1: Advantages and Disadvantages of Traditional System

Advantages	Disadvantages
<ul style="list-style-type: none"> • Competitive fairness, as all contractors are bidding on the same basis. (Morledge et al, 2006) • Design-led, as the client has more direct influence thus facilitating higher levels of functionality and bespoke quality in the design. (<i>ibid</i>) • Reasonable price certainty, as the award of the contract is based upon market forces therefore there is reasonable amount of certainty in price but it is subject to design changes or client led changes which have cost implications. (<i>ibid</i>) • Transparent and based on competition, where public expenditure or audit demands are rigid the strategy is satisfactory in terms of public accountability. (<i>ibid</i>) • Ease of use, the procedures are 	<ul style="list-style-type: none"> • Time consuming processes, traditional methods have time consuming processes. It is possible to attempt to speed up the process by producing tender documents from an incomplete design, but this usually result in less cost and time certainty and can be the cause of expensive disputes. (Morledge et al, 2006) • Longer project duration, the overall project duration maybe longer than for other strategies as the strategy is sequential and construction cannot be commenced prior to the completion of the design with no parallel working. (<i>ibid</i>) • Zero Inputs by contractor, it removes the contractor from the design development phase and thus much management and constructability information is lost (Francis and Sidwell 1996;

<p>well known, enabling confidence to be assured in those involved throughout the supply chain. (<i>ibid</i>)</p> <ul style="list-style-type: none"> • Adaptive to changes, changes are reasonably easy to arrange and value where the design needs vary due to changes in client need or technology. (<i>ibid</i>) 	<p>McGeorge and Palmer 1997). This has serious consequences in terms of both cost and relationship risk (Walker and Hampson, 2003). The contractor can offer valuable inputs and advice on how to best meet design specification in an effective manner in terms of cost and time as the contractor is closest to the workface with intimate knowledge of production process (Francis and Sidwell, 1996).</p> <ul style="list-style-type: none"> • Adversarial relationships, The main criticism of the traditional approach has been that it invites a confrontational approach over disputes arising out of contract variations (Walker and Hampson, 2003). This is because this strategy is based on price competition and this can result in adversarial relationship developing. • No single point responsibility, There is a lack of single-point integration and responsibility, and fragmentation increases (Murray and Langford, 2009).
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2.7.2. Design and Build (D&B)

Murray and Langford (2009) state that the Design and Build (D&B) came into being as a consequence to one of the major disadvantages of the traditional methods i.e. the separation of the design and construction and separation of the

organisations charged with design on and with realising the design. As a result of which they state that “there is a lack of single point integration and responsibility which also increases the fragmentation. To counter this, most project-based industries like construction have a form of design-build model providing greater unification of responsibility (though in construction the traditional system still retains a strong presence throughout the world)” (Murray and Langford, 2009). Hughes et al (2006) describes the design and build (D&B) as a procurement system where a single organisation undertakes the responsibilities and risks for both the design and construction phases. They further suggest that within this there can be various levels of employer involvement in the design. According to them in the purest form of D&B, the client engages a building contractor at the outset (after competition or otherwise) who is then responsible both for the design and the construction of the work. Regarding the payment mechanism in this method Hughes et al (2006) suggests that the typical payment method for D&B is a lump sum, payable in monthly instalments, based on a cost document that forms part of the “Contractor’s Proposals” which is itself a tendered or negotiated response to the “Employer’s Requirements”, documents that form the basis of the contract. (Hughes et al, 2006)

Murray and Langford (2009) state that in construction this method of procurement has evolved to such an extent now that it has many variants. They broadly state that in the design and build approach organisation tenders/bids or negotiates them with the client prior to commencing design work and as a result parts of the tendering or negotiations demonstrate how the design-build organisation is going to respond to the client’s needs. They state that the bid evaluation can become complex as different costs are associated with design solutions. There are three main organisational configurations of design and build which are discussed below.

- **Integrated Design & Build**

Murray and Langford (2009) state that this type of configuration occurs when the design, costing, and implementation expertise lie within one organisation

and the contract for work is between the design and delivery company and also the client.

- **Separated Design & Build**

Murray and Langford (2009) provide a good description of separated design-build. They state that this arrangement puts together a temporary organisation comprising the necessary design and construction expertise. According to them the project team is usually comprised of a consortium of independent practices for design and construction put together for a specific bid. They also state that this arrangement has some semi-permanence as usually when a design and build job is imminent, a broadly similar set of firms configure themselves to present a design-build solution and within this method there are possibilities for more bespoke arrangements being made to suit a particular kind of project.

- **Novated Design and Build**

Murray and Langford (2009) define novated design and build and suggest that it is a more recent innovation in the D&B procurement route. They state that the word “novated” is taken from the meaning of novation, which means substitution of a new obligation for the existing one. In this case the “new obligation” is for the project contractor to take over “existing” designs drawn by a lead designer (Murray and Langford, 2009). Hughes et al (2006) and Murray and Langford (2009) description of Novated D&B is that the client commissions a design firm, often selected through an invited competition, to create the concept, key features of the design, and outline budget. When the conceptual work is agreed, then the designer’s work is handed over to the project contractor who then “owns” the design and so develops it to a condition that enables the design to be realized. According to Hughes et al (2006) in this method much of the clients traditional design control is retained in the early stages of the project, while passing ultimate responsibility for the design to the contractor. Murray and Langford (2009) states that the benefits of this method firstly is delivering solutions that have a design scheme developed without production issues dominating the designers’ thinking, thus allowing design flair to flourish as the contractors develop the design with an eye to retaining the

design concept while producing production drawings. Secondly this brings benefits in terms of assembly, function, and value. In short, the method seeks to maximize the design benefits of the traditional system and the production benefits of the design-build model (Murray and Langford, 2009). Hughes et al (2006) provides some criticism to the novated D&B and states that it has the ability for restricting the commercial position of building contractors, and for creating conflicts of interest for designers, though both groups appear to tolerate the system because of its appeal to clients, and it seems to be very widespread in the UK, more so than pure D&B.

- **Turnkey**

Turnkey method can also be considered as another variant of the D&B model. According to Walker and Hampson (2003) turnkey procurement systems provide for the company supplying D&B services to also finance the project. They state that unlike the method of payment for Project Management (PM), Construction Management (CM) and D&B in which the client makes staged based or periodic payments towards the value of work completed. In turnkey projects the company is generally paid upon the completion of the commission and testing (Walker and Hampson, 2003). The client pays for the project and gets the key to gain access to the project hence the name turnkey. According to Walker and Hampson (2003) turnkey shares some similarities with Build Own Transfer (BOT) family projects except that the contractor does not undertake to operate the constructed facility. They suggest that the turnkey approach suits many clients who wish, for tax or other financial purposes, to only make payment upon delivery of an acceptable product.

2.7.3.1. Advantages and Disadvantages Design and Build

The main advantages and disadvantage of Design and Build (D&B) approach has been adapted from Miller et al (2009) and are tabulated as follows:

Table 2. 2: Advantages and Disadvantages of D&B

Advantages	Disadvantages
<ul style="list-style-type: none"> • Less resources and time is required for contracting designers and contractors separately as client deal with only one firm. • Due to client's requirements being specified prior to commencement of construction and changes not being introduced, hence price certainty is obtained. • Application of a guaranteed maximum price with a savings option split can result in stimulated innovation and reduced time and cost. • Project time is reduced due to overlapping of design and construction activities. • Contractors input in design can result in improvement in constructability. (Miller et al, 2009) 	<ul style="list-style-type: none"> • Clients may face difficulties especially in preparing an adequate and sufficiently comprehensive brief. • Client changes to project scope can incur high costs. • Difficulty in comparing bids because of variety in design and project programme between bidders, and prices for the project can be different for each design. • Clients are required to commit to a concept design at an early stage and often before the detailed designs are completed. • Limited design liability due to the available standard contracts. (Miller et al, 2009)

2.7.3. Management contracting (MC), Construction Management (CM) and Project Management (PM)

According to Hughes et al (2006) the management contracting (MC) emerged as a response to the need of developers to take more of the commercial risk on construction projects than would be the case in general contracting. They suggests that the risk need coupled with the growing trend for building contractors to sub-let all of the work resulted in the need to procure only a project's management and co-ordination input in conjunction with a close relationship between client and contractor. According to them since the aim was

to ensure that a management contractor faces little financial risk for the performance of others, the management contract is usually let on a cost-reimbursable (cost plus or target-cost) basis, with a fee bid for managing the project together with an agreement for reimbursement of expenses incurred. They further state that typically the management contractor sub-lets all of the actual construction work to "Works Contractors". (Hughes et al, 2006)

Hughes et al (2006) and Murray and Langford (2009) describes the similarities of the contractual arrangement and services rendered by a Construction Management (CM) firm and state that they are not dissimilar from those under Management Contracting (MC). According to them relieving such an organisation of contractual risk for the performance of sub-contractors is much more effective if they are not contractual intermediaries. To them the most significant characteristic of CM is that there is no general contractor; instead there is a series of direct contractual links between the Client and the Trade Contractors, making the role of the CM more like a consultant than a contractor. They also state that this type of arrangement is used particularly by experienced clients on projects with short lead-times (Hughes et al, 2006). Tookey et al. (2001) also agrees that such arrangements are often tailored for a particular project with payment systems, legal arrangements, and specialist contractor selection methods all being bespoke. They state that this has an influence upon professional roles and relationships. Walker and Newcombe (2000) and Murray and Langford (2009) state that the social system of a project is influential with the personality and power bases of the leaders of the various organisations engaged in the project shaping performance in practice.

Interestingly Murray and Langford (2009) have stated that "the advantages of the system are really drawn from Adam Smith's (1838) classical economic theory proposed in the Wealth of Nations, that of specialization producing economic benefits because of lower costs and more efficient production. The use of specialist trade contractors enables designs and installations to be rolled out as the project progresses, thus ensuring a fast-track approach. Moreover, the specialist packages can be tendered and so have the dubious benefit of work being let for the lowest cost. (This philosophy is waning in the face of

“best value” rather than lowest-priced procurement strategies)”. (Murray & Langford, 2009)

Regarding project management (PM) as procurement approach in construction according to Murray and Langford (2009) in principle it is similar to construction management and the major difference being that the scope and authority of the project manager is likely to be greater than the Construction Management (CM). They suggest that the PM organisation will be appointed early and acts as a quasi-client and the PM may be asked to undertake on behalf of the client functions such as a site acquisitions, arranging the funding, obtaining necessary permissions in effect undertaking all of the client-led feasibility studies. They further suggest that the project manager will commission the designs and constructors. In short to them the PM acts in lieu of the client organisation (Murray and Langford, 2009).

2.7.3.1. Advantages and Disadvantages of MC, CM and PM

The main advantages and disadvantages of MC, CM and PM approach have been adapted from Miller et al (2009) and are tabulated as follows:

Table 2. 3: Advantages and Disadvantages of MC, CM and PM

Advantages	Disadvantages
<ul style="list-style-type: none"> • Improved coordination and collaboration between designers and constructors as the client deals with one firm. • Saving in time for the overall project due to overlap in design and construction activities. • The contractor assumes risk and responsibility for the integration of the design with construction. • Works packages can be let at prices that are competitive and current. • Constructor input into the design 	<ul style="list-style-type: none"> • Price certainty depends on letting of the final works package. • Suitable for informed and proactive clients only. • Price certainty is poor. • Need more control over time and information. • A good quality brief is needed to be provided by the client to the design team as the design will not be complete until resources have been committed to the project (Construction management, management contracting and

<p>work can result in improved constructability.</p> <ul style="list-style-type: none"> • Risk and roles and responsibilities are much clearer for all parties. • There is more flexibility for changes in design. (Miller et al., 2009) 	<p>project management).</p> <ul style="list-style-type: none"> • Results in loss of direct control of design quality by the client which is influenced by the constructors (design and manage). (Miller et al., 2009)
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2.7.4. Package deals- BOO, BOT, BOOT

According to Walker and Hampson (2003) in this procurement option a client's project need is met by an entity that contracts to design, build, operate, own for some time period and transfer the facility back to the owner. They also describe the abbreviations used in the nomenclature of variants of this procurement option. In the abbreviation BOO, BOT, BOOT the 'B' the stands for 'Build' the first 'O' stands for 'Operate', the second 'O' stands for 'Own' and 'T' stands for 'Transfer' (Walker and Hampson, 2003). They state that with the BOT, BOOT, BOO etc procurement option an alliance or joint venture group is formed to provide a facility for a client for which the client makes a concession agreement to fund the facility until the facility's ownership is transferred to the client. Chu (1999); Merna and Smith (1996) and Walker and Hampson (2003) state that this arrangement is more common for infrastructure projects than buildings as the concession allows for tolls or other payments to be made by end-users to cover the cost of both procuring the facility and its operation.

Walker and Smith (1995) state that the "requirement of such type of procurement is that contracted parties must accept the conventional wisdom that risk is to be taken by the party within whose control most of the risk lies". They state that a major function of this type arrangement is to recognise and provide a mechanism for the assignment and management of those risks (Walker and Smith, 1995).

In terms of allocating risks and responsibilities to contractors according to Hughes et al (2006), there are many ways of increasing the scope of a

contractor's work. For example, many large engineering projects are structured as Engineer, Procure and Construction (EPC), an arrangement typically used for large projects (Hughes et al, 2006). Under this kind of arrangement, the EPC contractor takes on the responsibility for carrying out all of the design, constructing and commissioning work and the client only has to pay. Turnkey deals provide another example of package deals according to Hughes et al (2006) while Walker and Hampson (2003) consider turnkey as a variant of D&B.

2.7.3.1. Advantages and Disadvantages of Package Deals

The main advantages and disadvantage of the package deals approach are tabulated as follows:

Table 2. 4: Advantages and Disadvantages of Package deals

Advantages	Disadvantages
<ul style="list-style-type: none"> • Opportunities to realise efficiency gains arising from the management skills and innovative solutions (operations-driven or design-based) offered by the promoter. (Wilde Sapte, 1997) • Greater incentives for the control of construction, operating and maintenance costs. (<i>ibid</i>) • Additional finance that accelerates the development of economically justifiable projects and that allows for more projects to be implemented. (<i>ibid</i>) • Allocation of risks associated with project implementation to the party that is best able to manage and minimise it, resulting in greater efficiency and cost savings over the complete project life cycle. (<i>ibid</i>) • Greater control as the requirements are clearly formulated and specified in 	<ul style="list-style-type: none"> • In setting up they are more complex and time consuming. (Chu, 1999) • More extensive documentation and lengthy negotiations are required. (Chu, 1999) • Higher up-front cost, especially for the first BOOT, BOT, BOO etc. scheme. These projects, as a rule of thumb, should be over \$1 million in value to be cost effective in using this approach. (Chu, 1999) • Potentially severe effects on clients and stakeholders due integrated nature of finance, design and construction. (Walker and Hampson, 2003)

<p>terms of the project facilities and their operation. (<i>ibid</i>)</p> <ul style="list-style-type: none"> • Quality assurance without “gold plating”. (<i>ibid</i>) • Integration of design and operational needs. (<i>ibid</i>) • Access to new technology. (<i>ibid</i>) • Economy of scale. (<i>ibid</i>) • Better match between supply and demand. (<i>ibid</i>) • Enhanced project economics through alternative uses or collateral commercial ventures. (<i>ibid</i>) • Optimal use of scarce resources through clear price signals and user-pay principle. (<i>ibid</i>) 	
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2.7.5. Systems involving service agreements

Regarding systems involving service agreements Hughes et al (2006) state that in some cases, organisations may be contracted to provide other inputs. They state that the responsibilities of these contracted organisations include responsibility for activities such as commissioning, operation, and maintenance. They provide an example such as the measured term contracting which can enable a client to call on a contractor to provide building work during a specific period of time, as and when required, based on pre-agreed rates for specified types of work which is often used for ongoing maintenance contracts. Another example provided by them is that of stand-alone agreements, such arrangements fall into the category of “facilities management”, rather than “construction” contracts. In some cases, however, they can be part of a complex design-build-operate deal (Hughes et al, 2006).

2.7.6. Collaborative and Relational Based Procurement

As suggested by Hughes et al (2006) the inputs for a project comes from many organizations, but there is also a variety of ways in which these organizations define their commercial relationships. They further state that much can be gained in developing long-term collaborative and relational working arrangements, and for this reason, the continuity of a business relationship can have a significant impact on the way that a business transaction is carried out, including the means of selecting contractors and/or consultants. One result of this is that construction projects are less frequently perceived as one-off and discrete contractual deals. (Hughes et al, 2006)

Miller et al. (2009) suggest that collaborative forms of procurement require the development of relationships between the various parties. Davis (2004) considers this as an iterative and evolutionary learning process with three important characteristics being commitment, trust and cooperation. Miller et al (2009) state that relationship development encompasses partner selection, when the purpose of the relationship is defined and boundaries are established and finally value creation and maintenance occurs. According to them relationship contracting is the identification, establishment and maintenance of particular relationships with project stakeholders, commercialised and governed so that the objectives of all parties involved are realized. According to Davis (2005) this is done through trust building/ maintenance, whole life project commitment, and generation/ evaluation of mutual goals. Davis and Walker (2009) suggest that relationship based procurement leads to mutual benefit in construction business-to-business dealings and provides benefits over traditional forms of procurement with fragmented supply chains both within projects and across projects. A relationship-based procurement approach can take many forms, Walker and Hampson (2003) describe some of these as enterprise networks, partnering and alliances with alignment of objectives towards a common business objects as being a common thread. Miller et al (2009); Akintoye (2000); McIntosh et al. (2000) and Vrijhoef and Koskela (2000) all compare relationship-based procurement to supply chain management (SCM) with a strategic network of upstream and downstream organisations that collectively process activity and information flows to efficiently produce

enhanced value products for the ultimate customer. Miller et al (2009); Walker and Hampson (2003); Kornelius and Wamelink (1998) and Vrijhoef and Koskela (2000) suggest that relationship-based arrangement forms *virtual organisations*; a term that is used to describe consortia that are founded on relationship based procurement. They all point out that relationship-based procurement requires an approach that differs from traditional systems and requires a managed approach that includes:

- “Having longer joint planning and monitoring horizons;
- Corporate philosophies that must be compatible with key relationships - in other words actors share essentially the same strategic vision;
- Risks and rewards are shared over a long term;
- A rationalised supplier base allows increased coordination and reduced transaction costs;
- A propensity for information sharing.
- A focus on total costs and a desire to leverage technology”. (Miller et al., 2009)

Hughes et al (2006) state that the trend towards longer-term arrangements is clear with phenomena such as framework agreements and serial or strategic partnering, which involve long-term relationships over programmes of work rather than an individual project. They provide important examples of this such as the frameworks operated by British Airports Authority (BAA) and many of the large supermarket chains, the UK public sector especially ProCure21 which is a framework for the delivery of the UK’s National Health Service (NHS) (NHS Estates projects) and Prime Contracting (used by Defence Estates in the UK). According to Ndekugri and Corbett (2004) the basic assumption underlying the movement towards collaborative working is that it will drive down costs and improve the quality of infrastructure. But the flip side of this assumption is that it could in time create cosy relationships and erect barriers to market entry (Winch 2000). Such concerns have already been raised regarding allegations of cartels and secret anti-competition agreements in the automobile and retail industries, which have been held out as the exemplars of supply chain integration, the adequacy of any protective measures against this risk needs investigation (Ndekugri and Corbett, 2004).

2.7.3.1. Advantages and Disadvantages of Collaborative and Relational Based Procurement

The main advantages and disadvantages of collaborative working have been adapted from Hughes et al (2006) and are tabulated as follows:

Table 2. 5: Advantages and Disadvantages of Collaborative and Relational Based Procurement

Advantages	Disadvantages
<ul style="list-style-type: none"> • Saving the costs of re-bidding each individual project, the prospects of continuous improvement from one project to the next, and a more predictable workflow for the supply-side. (Hughes et al, 2006) 	<ul style="list-style-type: none"> • The chance of relationships becoming too comfortable, and the client's loss of access to "market value" that comes with abandoning repetitive tendering and erect barriers to market entry (Winch 2000) and (Hughes et al, 2006)

2.7.7. Alliances

Cullen et al (2005) define alliance as an agreement between two or more entities, which undertaken to work cooperatively and on the basis of sharing of project risk and reward, for achieving agreed outcomes based on principles of good faith, trust and an overt open-book approach towards costs. They also state that alliancing is the identification, establishment and maintenance of particular relationships with project stakeholders. They also state that these relationships are commercialised and governed so that the objectives of all parties involved are met. Davis (2005) suggests that this is done through trust building/ maintenance, whole life project commitment, and generation/ evaluation of mutual goals.

Cullen et al (2005) and Miller et al (2009) provide the common features of an alliance which are as follows:

- A. Risk is shared between customer and supplier. (Cullen et al. 2005)

- B. The alliance contract typically contains a no-disputes clause with no liability between participants (except for wilful default). (*ibid*)
- C. The customer and supplier share common goals for project success. (*ibid*)
- D. All transactions are of an open book format. (*ibid*)
- E. All participants win, or all participants lose, depending on the outcomes actually achieved (incentives cost reimbursement). (Miller et al. 2009)

According to Davis and Walker (2009) project alliances are a particular kind of relationship procurement system that rely on virtual organisations generating new knowledge enabling teams to solve interrelated problems in a complex environment. Hampson et al (2001) and Love et al (2009) state that the concept of alliancing is presently considered as a way of procuring projects and has been used successfully by both the private and public sectors.

Furneaux et al (2009) and Miller et al (2009) points out the key distinction between alliancing and the traditional approach which is that all the members of the construction team are involved in the planning of the project. They further state this results in the involvement of constructors in the design phase of the project, and this can provide important early advice on the 'buildability' of a given design, and thus reduce changes to plans and contracts as well as costs and time overruns. Miller et al (2009) suggests that the establishment of an alliance can be through open tender or pre-qualified supplier arrangements or through bids by invitation. According to them it involves a less competitive approach than compulsory competitive tendering.

Miller et al. (2009) citing MacDonald (2004) who distinguishes between partnering and alliances by stating that in an alliance there is a joint rather than shared agreement to the acceptance of risk, the non-owner participants declare and agree with the client all their costs above direct costs beforehand and then place these at risk. The reason they provide for this is because risk is then jointly assumed if any one party fail to perform, all parties are at risk of losing their rewards and most importantly are at times even jointly distribute losses according to the agreed pain and gain share model.

2.7.8. Best Value Based Procurement Method

Philips et al. (2004) state that the concept underpinning 'Best Value' is that a new culture of collaborative working can generate value. Murray and Langford (2009) consider the following principles as the basis for best value procurement:

- “Integrating value management and risk management techniques within normal project management
- Defining the project carefully to meet the user needs
- Taking account of whole life costing
- Adopting change control procedures
- Use of partnering arrangements
- Not appointing suppliers on lowest cost” (Murray and Langford, 2009).

Philips et al (2004) suggest that the effectiveness of best value tendering has been diminished for a number of reasons but most importantly due to lack of understanding by the stakeholders of the basic principles of 'best value' tendering and failure to produce audit trails that record the decision making process. They state that these difficulties have lead to legal challenges, which have directly caused the clients involved to incur financial loss. According to them as a consequence, it has resulted in the development of an approach that aims to refine a tender mechanism that transparently links the client's value system with the procurement process, as they suggest would create a formal relationship between the formation of corporate strategy and policy and with time would subsequently become a part of the contractor selection procedure (Phillips *et al.* 2004).

2.7.9. Prime Contracting

Miller et al (2009) citing *Achieving Excellence in Construction Procurement Guide* (2000) describes prime contracting as using a single contractor to act as the sole point of responsibility to a public sector client for the management and delivery of a construction project in accordance with a pre-agreed cost model. They also suggest that prime contracting is an outcome of research regarding

the application of supply chain methodologies from the manufacturing and retail industries to construction. In their view there is limited research on prime contracting and state that its benefits compared to other procurement systems are yet to be established. Ndekugri and Corbett (2004) state that it is difficult to differentiate prime contracting from other procurement strategies based on supply integration and integration of design and construction or even partnered traditional procurement. They state that the reason for this is a lack of coherent theory of prime contracting that distinguishes it from other procurement strategies. Ndekugri and Corbett (2004) identify the most innovative features of prime contracting to be the importance it places on whole life costing (WLC). Figure 2.4 below is an example of prime contracting.

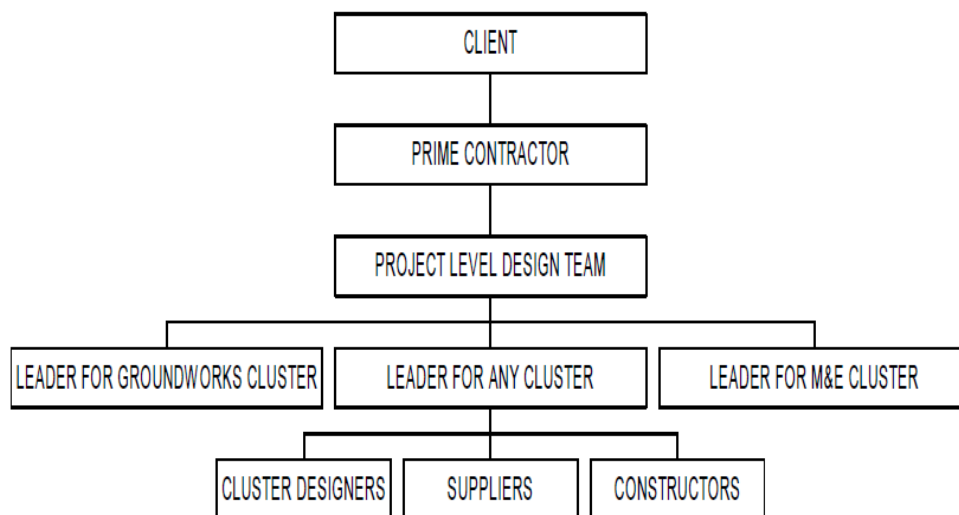


Figure 2. 4: Prime Contracting (Ndekugri and Corbet, 2004)

2.7.10. Private Financed Based Procurement

Duffield (2008) defines Public-Private Partnerships' (PPPs) as a contracting arrangement in which a private party, normally a consortium structured around a Special Purpose Vehicle (SPV), that takes responsibility for financing and long term maintenance or operation of a facility to provide long term service outcomes. Duffield (2008) and Miller et al (2009) suggest that this may involve the private entity taking responsibility for the design and construction of a component of new infrastructure; and/or taking over a long-term lease or

concession over existing assets; and/or the development of a new long term contract to operate and manage the infrastructure. They further describe the typical forms of this type of procurement which includes: Design, Build, Finance and Operate/Maintain (DBFO/M), Build-Own-Operate (BOO), Build-Operate-Transfer (BOT) and Build-Own-Operate-Transfer (BOOT). According to Miller et al (2009) a key component of such arrangements is that there is a requirement to pay only for defined assets or services when they are delivered.

According to Hughes et al. (2006) the normal arrangement in construction is that finance is arranged by the project initiator (the “Employer”, “Client” or “Owner”). However they state that in recent years there have been some dramatic changes in the way many projects, particularly those in the public sector, are financed. According to them the terms used for such projects include Design-Build-Finance-Operate (DBFO), Private Finance Initiative (PFI), and Public-Private Partnership (PPP) as also suggested by Duffield (2008) and Miller et al (2009) above. Hughes et al (2006) state that the process starts with the project initiator inviting outline bids from selected organisations which vary in nature, but typically involve a purpose-made company, called a “special purpose vehicle” (SPV) which is made up of financiers, contractors and operators. According to them the list of competitors is progressively reduced at each stage as the proposals are developed and which they state to be an important factor, as the “up front” bid preparation is purported to be very costly. They state that after this the next stage for the successful bidder is to enter an “upstream” contract with the owner, and “downstream” contracts with constructors, suppliers and service providers. They further suggest that in some cases such as in power generation there are additional long-term contracts with the users for the service provided and the deal is ultimately concluded when responsibility for the facility is transferred back to the owner which is typically after a number of years of operation. (Hughes et al., 2006)

2.7.11. Private Finance Initiative (PFI)

PFI has been defined by Achieving Excellence in Construction Procurement Guide (2000) as when “the public sector contracts to purchase quality services, with defined outputs from the private sector on long-term basis, and including

maintaining or constructing the necessary infrastructure so as to take advantage of private sector management skills incentivised by having private finance at risk". (Achieving Excellence in Construction Procurement Guide cited in Miller et al. 2009)

According to Miller et al. (2009) the PFI process involves competing private sector consortia, often joint ventures created for the purpose, comprising of construction contractors, facilities management contractors, architects and design teams as well as construction, legal and financial advisors. They describe the process by stating that all of these parties involved must submit bids to design, build, finance and manage public buildings, usually on a 25-year contract in return for an annualised or 'unitary' charge (a Design Build Finance Operate (DBFO) contract). According to CABE (2005) the consortia have to invest typically around 10 percent of the project value as equity and secure backing from financiers for the remainder. CABE (2005) also state that "PFI is often an intrinsic part of PPP's and many PPP projects can be seen as 'serial PFI': after the selection of the Private Sector Partner (PSP) by a method based on the PFI selection process, a long term contract is signed between the public sector client body and the PSP for delivery of as-yet unidentified projects. This creates a chance for fuller collaboration between the private and public sectors, unfettered by the constraints of the competitive process. In their post-contract stages, PPPs avoid some of the problems with straight PFI projects". (CABE 2005)

From the above it is quite evident that the PFI selection process is quite complex and as Miller et al (2009) states that the increased complexity of the PFI process brings together a range of issues that are generally separated in more traditional forms of procurement. They further state that these issues all have to be addressed within a very short bidding period. This seems to be a major constraint to PFI. (Miller et al., 2009)

2.7.3.1. Advantages and Disadvantages of PFI

The main advantages and disadvantages of PFI has been adapted from CABE (2005) are tabulated as follows:

Table 2. 6: Advantages and Disadvantages of PFI

Advantages	Disadvantages
<ul style="list-style-type: none"> • It prevents cost over-runs from being passed on to clients through transferring of risks from the public sector to private sector. (CABE 2005) • Over the facility's lifetime maintenance is guaranteed. (<i>ibid</i>) • Has a higher likelihood of on time completion because of increase in speed of construction. (<i>ibid</i>) • It encourages easy and efficient building construction and efficient to maintain and manage by using materials and techniques that stands the test of time as a result of the responsibility for the long-term maintenance of the facility with the contracting consortium. (<i>ibid</i>) • Consideration of whole-life costing is promoted by this method. (<i>ibid</i>) 	<ul style="list-style-type: none"> • Not suitable for inexperienced and one off clients as the method has many complexities and clients who are inexperienced are unprepared for the complexities and often lack both an understanding of the need for high-quality design and the skills necessary to ensure quality deliverance. (CABE 2005) • By nature PFI is contractor dominated and as a result and in particular because of the limitation of time, bidding consortia's design teams have only limited opportunities to work closely with the client during the bid stages of the PFI process and different solution are not explored fully to the clients' service requirements even despite the rhetoric of consultation that appears in bid documentation. (<i>ibid</i>) • Results in overoptimistic and unrealistic budgets being set by clients based on historic data fixed in the outline business case. (<i>ibid</i>) • Clients can fail to invest properly in feasibility and option studies, while value for money considerations remain desk-top exercises that take little account of site constraints, surveys, planning constraints and other qualitative issues. (<i>ibid</i>) • Almost little or no incentive for the private sector to innovate or take risks

	<p>on issues regarding service delivery (the cost of which continues to be carried exclusively by the public sector). As a result, quality of life issues and service efficiency do not form part of the discussion and the result is at best value for budget rather than real value for money for the public funds. <i>(ibid)</i></p> <ul style="list-style-type: none"> • The PFI process fails to take account of how service delivery and the way in which buildings are used and how will it change over the course of a PFI contract and beyond. This often results in inflexible and unsustainable buildings that may become redundant long before the contract expires. <i>(ibid)</i> • Design is still often under-weighted in the evaluation process that determines what constitutes best value. The design can only emerge as a differentiator when a market settles in a relatively narrow band in terms of financial and competency issues. Presently the high-quality designs promising better whole life value have only rarely outweighed cost differentials. <i>(ibid)</i> • The stop-start nature of the PFI process requires architectural practices to assemble large teams to prepare bids; these teams then need to be re-assembled at each stage during the bidding process and again at the start of the construction phase. This makes it difficult to have continuity of designers throughout the project. <i>(ibid)</i>
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	<ul style="list-style-type: none"> • The complex nature of PFI means that the initial stages of the process are extremely protracted. During these stages all private sector bidders are working at risk, creating barriers to entry to market and reducing the pool of talent from which the public sector could benefit. (<i>ibid</i>) • Once contract signature has been reached design teams are under pressure to produce detailed designs for an early start on construction, thereby minimising financing costs for the consortia prior to occupation. Combined with the pressure of ‘value engineering’ after financial close has been reached, this regularly compromises overall quality. (<i>ibid</i>)
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2.7.12. Performance Based Methods of Procurement

Murray and Langford (2009) suggest that the performance-based procurement systems (PBPS) are being implemented within a wide range of project-based industries as a means to overcome problems associated with performance. They state that the culture of soliciting suppliers on the basis of lowest bid price has been common in many industries, and particularly international construction. According to them the low barrier to entry in this sector has exacerbated such conditions, and the dissatisfaction often experienced by the end user of the product/service is well documented. However, they also say that experienced clients who regularly commission projects are seeking “best value” rather than simple capital cost reduction in a product/service. (Murray & Langford, 2009)

Murray and Langford (2009) say that the philosophy behind PBPS is the ending of the reliance on formal contracts and emphasis is on the relationship between

buyer and sellers focusing on partnership rather than distrust. They also say that PBPS has competition but it is based on clear targets for improvement, in terms of quality, timeliness, and cost. Goldin (1999) refers to the implementation of performance-based contracting (PBC), whereby all aspects of acquisition are structured around the purpose of the work to be performed as opposed to how the work is to be performed or broad and imprecise statements of work. Miller et al. (2009) state that Performance Information Procurement System (PIPS)©™ is a recent approach to innovative construction procurement systems, which was developed essentially to address the problems of non-performance in the construction industry. They also state that as the name indicates, PIPS©™ uses performance information to evaluate the participating contractors, rather than procuring construction subjectively or based solely on price. Parmar et al (2004) state that PIPS©™ lends objectivity by adopting a risk minimization approach using past performance information along with price for selecting contractors. According to Parmar et al (2004), a performance based delivery system such as PIPS in a performance-based environment has a higher ability to minimize risk than a delivery system in a price based environment. Miller et al. (2009) believe that in order to achieve owner satisfaction, projects have to be completed on time, within budget, and meet or exceed customer expectations. According to Miller et al (2009) the research at Performance Based Studies Research Group (PBSRG) at Arizona State University lead by Professor Dean Kashiwagi indicates that a system having a higher ability to minimize risk will lead to better performance for the owners. According to Parmar *et al* (2004), a strong correlation between the satisfaction which an owner can experience and the construction procurement process, indicates that a construction procurement process which has a higher risk minimizing ability is optimal, thus Parmar et al (2004) argues that PIPS©™, a quadrant II process, has a higher ability to minimize risk for the owner than low bid, a quadrant I process. To understand this concept, consider Figure 2.5 below.

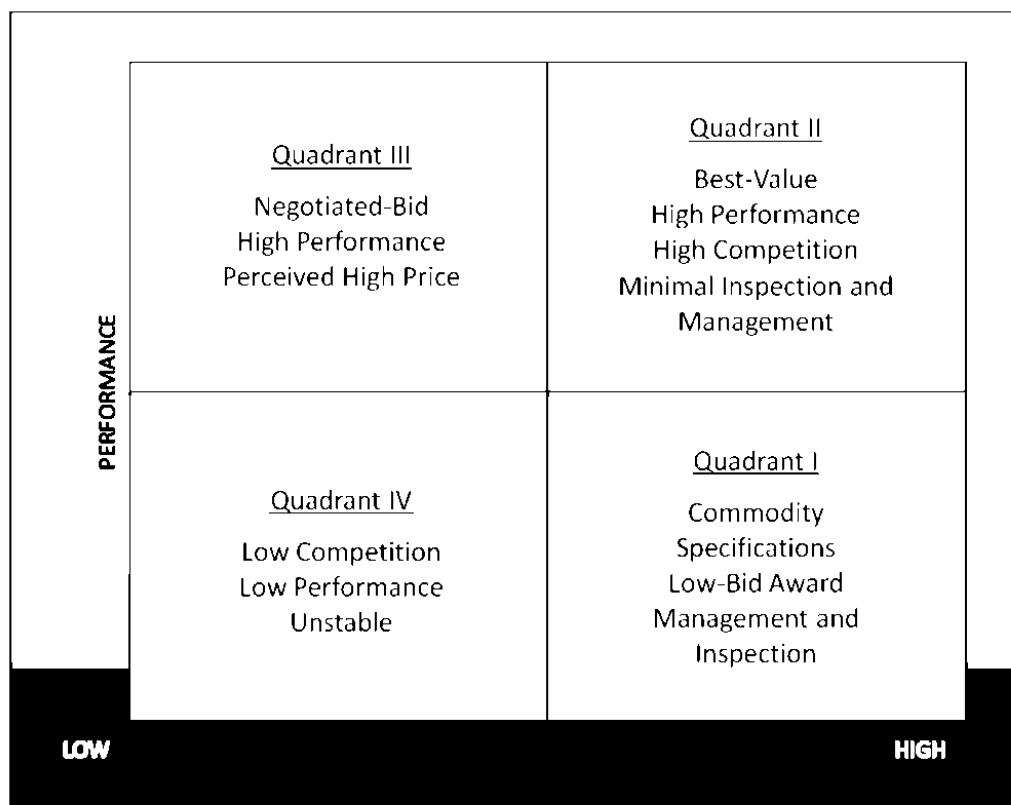


Figure 2. 5: Construction Industry Stability (Parmar *et al.*2004 cited in Miller *et al* 2009)

Kashiwagi (1997) notes that the success of PBPS rests in the supply of performance information and suggests that a facility owner use the supplier information in the list which is as follows.

- “Expertise and experience
- Price
- Contractor margins, financial stability, and payment of subcontractors
- Previous size of jobs
- Previous types of contracts
- Completion rates on time and below budget
- Performance of previously constructed facilities of facility systems
- Personnel proposed for construction management”.

2.8. Economics and Cost of Procurement

For understanding procurement it is necessary to develop an understanding of the economics and contractual relationships of firms. Regarding costs of procurement Oyegoke (2009) suggests that the most important cost factor is transaction costs and is inherent in project procurement. Hughes et al (2006) defines transaction costs are all those costs which are not costs of production. To understand the theory of transaction cost the seminal work of Coase (1937) has to be studied and understood. Hughes et al (2006) suggest that transaction costs is the determining factor as to whether a firm produces inputs in-house or buys in goods and services i.e. usually termed as the make-or-buy decision. According to them the choice of whether to make or buy is dictated by the relative benefits of organising in-house production as opposed to going to the market for supplies, referred to by Williamson (1975) as the choice between markets and hierarchies. Williamson (1990) stressed on the importance of comparative analyses of the costs of different modes of organising productive activities and points out that reality is fuzzier than a simple choice between market or hierarchy in that markets are often characterized by networks of participants, creating regular relationships in what is sometimes referred to as a quasi-firm (Eccles 1981). According to Hughes et al (2006) the creation of such networks is increasingly prevalent in the construction industry, with the growing popularity of partnering, supply chain management and strategic alliancing.

Several authors such as Reve and Levitt (1984); Winch (1989); Reve (1990); Casson (1994); Lyons (1994 & 1995); Dutta and John (1995) and Winch (1995) have sought to explain contracting in the construction industry by using transaction cost economics framework and found that it is unusually reliant on transactions for organising work. Dietrich (1994) is critical of the ideas of using traditional transaction costs theory to explain the construction industry and suggests that the application is problematic because it ignores the inherently dynamic nature of contracting and organisation problems. Hughes et al (2006) suggests that in the context of innovative approaches to construction business, an important challenge is to develop supply chains without compromising competition and free trade. Monopolistic situations, and the opportunism to which they can give rise, are identified as a source of high transaction costs

(Williamson 1975, 1985). Hughes et al (2006) states that it's a significant issues on how to structure relationships in a way there is some likelihood that people along the supply chain will carry out their promises. Benhaim (1997) and Hughes et al (2006) state that this gives rise to problems in contractual terms as in supply chain management there can be interdependencies between people who are not contractually linked.

Hughes et al (2006) has also provided 5 items in which transaction costs occur in construction procurement they are as follows:

1. "the parties to a transaction finding each other and communicating directly or indirectly;
2. the drawing up of agreements and contracts;
3. the definition and inspection of goods involved in the transactions;
4. the keeping of records;
5. enforcement of the agreements and contracts". (Hughes et al, 2006)

They suggest that in the construction industry, items 1 and 2 above are very high because of the complexity of the process of producing a building or other works and the other transaction costs (3-5 above) are not strictly costs of procurement according to them are relevant because they are influenced by the procurement methods (Hughes et al., 2006). Oyegoke (2009) state that based on the period and nature of costs there are different views about the scope of transaction costs. Miller (2002) refers to a transaction period as a period that begins on the date when the initial application to build a project is submitted, and runs through to the date when construction starts. Gray and Hughes (2001) and Oyegoke (2009) state that transaction cost theory is the most significant factor in the decision to either use in-house production or to outsource. And according to them between these decision choices of make or buy there is an intermediate structure called network, which is most applicable to the construction industry as the choice of firms depends on price competition, reputation, reliability, knowledge, and experience.

Bennett and Jayes (1998) investigated the process of partnering in the construction sector in light of transaction cost theory and found that like other

industry sectors, the development of strategic long-term relationships between firms has become known as strategic alliancing. According to Hughes et al (2006) an interesting phenomenon is that some strategic alliances result in one of the partners taking over the other (Bleeke and Ernst 1995), shifting production in-house (Hughes et al., 2006). This according to Hughes et al (2006) could reduce transaction costs since information transfer is cheaper within a firm rather than between firms (Kay 1982, Pass et al. 1995). There has been little empirical work to test the reliability of the theories in industry generally or to investigate the validity of transaction cost theory in relation to the construction industry (Hughes et al, 2006). According to Hughes et al. (2006) because of the high transaction costs in construction it might, on a first look, seem more economical to bring the inputs in-house and avoid the costs of arranging contracts for the supply of materials and labour. The theoretical approach using the concept of the internal labour market as opposed to the external labour market suggests that there should be a movement towards the internal labour market and away from sub-contracting (Buckley and Enderwick 1989). "Hillebrandt and Cannon (1990) list five characteristics of construction which affect the division of work between that carried out by the contractor directly and that which is sub-contracted:

- The finite construction period of each project.
- The wide geographical spread of location of projects and especially that of large ones which can be undertaken only by major firms.
- The uneven requirement for specific skills over the life of the project.
- The wide diversity of skills required such that any one contractor may not be able to supply all of them.
- Fluctuations in the demand for any particular type of work". (Hughes et al, 2006)

These factors according to Hughes et al (2006) outweigh the theoretical reasons which favour the internal labour market and result in the widespread sub-contracting. Buckley and Enderwick (1989) and Hughes et al (2006) state these factors, as well as others related to the control of the workforce, explain the situation on the ground. But according to Hughes et al (2006) the important decision in the construction industry is not whether to outsource or not, but how

best to structure the relationships in the complex network of contracts that typify construction projects.

2.9. Important Factors Influencing Procurement

The sections below describe the important factors influencing procurement in detail such as the nature and type of clients, client's objectives, innovation, external environmental factors, performance requirements, project characteristics and lack of understanding of appropriate methods of procurement.

2.9.1. The nature and type of clients

Reports in the UK such as 'Constructing the Team' (Latham 1994) and 'Rethinking Construction' (Egan 1998) have focussed on categorization and stratification of clients. According to Tookey et al (2001) the variety of dichotomous descriptions for clients have been compounded and reinforced through the activities of large client representative bodies such as the Construction Client's Forum (CCF) and Construction Round Table (CRT). They also suggest that these organisations are created and staffed by large clients and hence their agendas are also driven by the requirements of construction's largest customers. Tookey et al (2001) also suggest that because of this the gap between what are considered to be small/occasional/naive clients and those that are generally large/regular/experienced clients has substantially grown. Cox & Townsend (1997) differentiate between clients who have a regular requirement for construction work of similar value and content (process spenders), and infrequent purchase clients (commodity spenders) (Tookey et al., 2001). They propose that 'collaborative' and 'teamwork' approaches as suggested by Latham (1994) are only possible with a long-term relationship founded on regular process spending (similar to the Japanese keiretsu-type arrangement) (Tookey et al., 2001).

Masterman and Duff (1994) go on to differentiate the relative importance to the client of each criteria by separating clients into distinct sets: the clients are quantified as being either public or private, being primary or secondary clients, and by being either experienced, partially experienced or inexperienced

(Tookey et al., 2001). This approach to client classification has also been used in the work of Davenport & Smith (1995) and Edum- Fotwe *et al.* (1997). Masterman's (1994) typology of client characteristics can be supplemented if consideration is given to such additions as being a primary or secondary constructor (Rowlinson 1999).

2.9.2. Client's Objectives

Tookey et al (2001) states that understanding a client's implicit and explicit objectives is a complex issue in construction. Walker (1996) and Tookey et al (2001) states that fundamentally client objectives focus on three factors critical to project success i.e. quality, cost and time. Kumaraswamy & Mahanama Dissanayaka (1996) identify over 37 objectives clients wish fulfilled by construction. Similarly, Bennet & Flanagan (1983) identify function and quality at the right price, speed of construction, balance of construction and life cycle costs, tax benefits, risk/uncertainty identification, design innovation, 'prestige' building reflecting client activities, and finally client involvement throughout duration of the project (Tookey et al., 2001). Masterman (1994) identifies and develops five significant customer 'wants' including active involvement throughout construction: final cost certainty, completion date certainty, value for money (VFM), and finally, having the lowest possible tender for work.

Tookey et al. (2001) by summarizes client's core objectives as highest realistic quality, lowest realistic cost, minimum realistic time, high prestige for the building (within 'affordability' parameter) and minimum conflict during the process. However, Tookey et al (2001) suggest that aside from 'core wants', "there is a huge variety of 'non-core' client requirements that construction has to assimilate". This according to Tookey et al (2001) adds complexity to procurement they also state that the goal of the construction industry is to deliver client satisfaction whilst making a profit at the same time.

2.9.3. Innovation

In construction like any other industry the evolution of procurement has been a result of innovation. Innovation is an important factor in procurement and hence

it is therefore important to understand what innovation is and the types of innovation in construction procurement. The following sections provide definition of innovation, the types of innovations and the impediments to innovation in construction procurement.

2.9.3.1. Definition of Innovation

Freeman (1989) defines innovation "...is the actual use of non-trivial change and improvement in a process, product or system that is novel to the institution developing the change" (Freeman, 1989). Ling (2003) defines innovation as an implementation of a new idea to a construction project with the intention of deriving additional benefits, although there might be some associated risks and uncertainties. According to Khalfan and McDermott (2006) Ling's (2003) definition of innovation could be considered as the most comprehensive within the construction industry context. The new idea may refer to new design, technology, material component or construction method used in a project (Asad *et al.*, 2005).

2.9.3.2. Process Innovation and Product innovation in Procurement

Miller *et al.* (2009) suggests that a well established differentiation is made in the literature between product innovation and process innovation and according to them product innovation involves the improvement of a building component, or technology used to construct buildings. Fryer (2004) defines process innovation as new ways of undertaking construction. Lædre *et al.* (2006) and Tookey *et al.* (2001) also suggest that process innovation can be understood as the innovation in the way it is achieved in procurement which according to Miller *et al.* (2009) is chiefly through innovation in organisational and financial arrangements and states that the use of design and build over traditional procurement approach is a good example of process innovation.

The following are some of the definitions of the types/ categories of innovations as stated by the Organisation for Economic Cooperation and Development (OECD) (2005) and cited in Miller *et al.* (2009):

- “A product innovation - is a good or service that is new or significantly improved with respect to its characteristics or intended uses (OECD 2005, 48) (e.g. new types of materials or products to be used in the construction of buildings)
- A process innovation - is the implementation of a new significantly improved production or delivery method (OECD 2005, 49) (e.g. alliances, PPPs)
- A marketing innovation - is the implementation of a new marketing method involving significant changes in product design or in product design or packaging, product placement, product promotion or pricing (OECD 2005, 49)
- An organisational innovation - is the implementation of a new organisational method in the firm’s business practices, workplace organisation or external relations (OECD 2005, 51) (e.g. changes to institutional arrangements within government)”. (Miller et al., 2009)

Several authors such as Ling (2003); Thorpe et al (2003); Miller et al (2009) and OECD (2005) all define, explain and differentiate between the kinds of innovation i.e. products, processes, organisational and management and marketing innovation and state that in practice all these innovations are prevalent except marketing innovation which is relatively less known and understood.

Miller et al (2009) further suggest that it is useful to distinguish between product and process innovation of procurement by differentiating between innovation of procurement and innovation within procurement, in construction projects and the following Table 2.7 from Miller et al (2009) helps in differentiating these types of innovations.

Table 2. 7: Type of innovation and procurement (Miller et al., 2009)

	Innovation of procurement	Innovation within procurement
Product innovation	New / improved financial instrument / contractual form	Innovation in components / structures of buildings and infrastructures
Process innovation	New / improved organisational forms, structures, sequences, financial arrangements	New / improved processes in construction

2.9.3.3. Impediments to procurement innovation

Winch (1998) state that construction and related industries are complex product systems which have many interconnected and customised elements which are nonlinear and have unpredictable qualities and hence as a result requires a high degree of user involvement in innovation. Shields (2005) has argued that innovation in construction involves a complex interaction between macro, intermediate and micro levels. Gann and Salter (2000) provide the best depiction of this as shown in Figure 2.6 below.

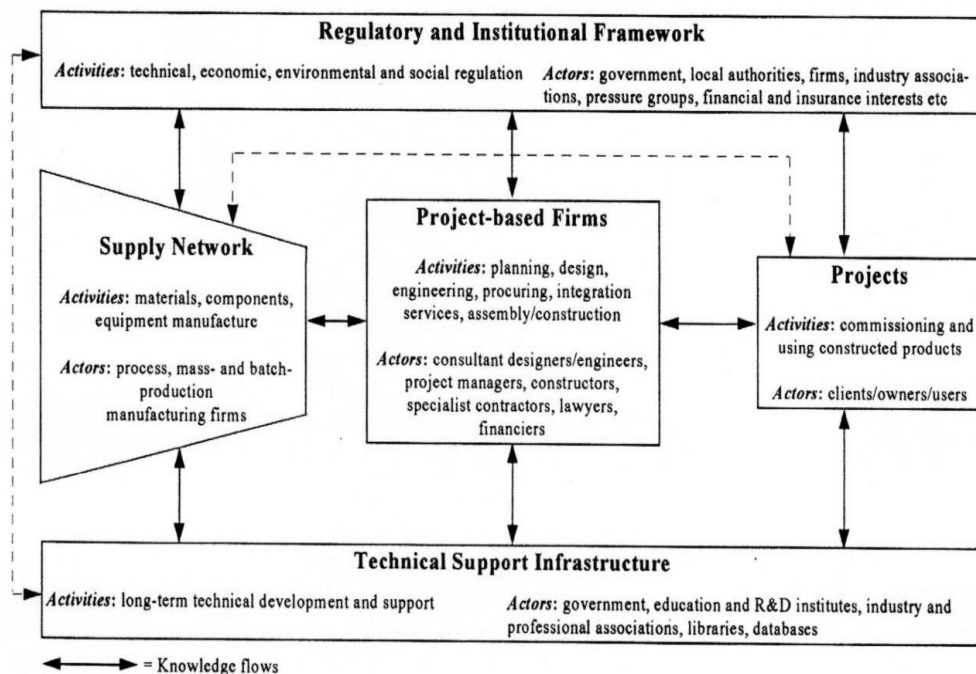


Figure 2. 6: Construction Innovation System (Gann & Salter 2000)

This complex interplay between various components of the construction industry has been argued to result in reduction in innovation amongst construction firms (Miller et al., 2009).

2.9.4. External Environment

Numerous authors such as Sheath *et al.*, (1994); Walker (1989); Hughes (1989) Chen, (2000) and Luu et al. (2003) postulated that clients' requirements are influenced by the context in which they operate which implies that procurement is governed by the predominant environment. Walker (1989) and Hughes (1989) identified a series of construction-related environmental influences pertinent to the project level which includes political, financial, economical, sociological, legal, institutional, competitive, cultural, technological, environmental, physical and aesthetical aspects (Luu et al., 2003). According to Luu et al. (2003) certain factors can directly or indirectly influence procurement such as "market's competitiveness and contractor's availability, labour productivity and material availability are associated with the competitive and economical aspects; while the regulatory feasibility and technology feasibility synchronizes the legal, technological, environmental and physical aspects"(Luu et al., 2003).

2.9.4.1 Types of Environmental Factors

Several authors have talked about the environmental factors and the impact it has on project procurement and a few of them have been mentioned in section 2.9.4 above. But for the purpose of this literature review the concise description of environmental factors and its impact on projects as presented by Hughes (1989) is given below:

"Cultural

This describes society's acceptance or tolerance of certain modes of behaviour. It covers such phenomena as 'peer group pressure'. It can have a great effect upon the industrial relations scene within a project, and on the 'informal systems' which are often acknowledged to exist within formal organizations.

Economic

This includes the level of general economic activity, as well as the question of the economic resources available to carry out the work, including the economic competition which exists to varying degrees around the appointment of all of the parties to the building project.

Political

This is concerned with government policy and the effect of political decisions upon the project. It also covers the sometimes large influence that strong individuals can have over a project.

Social

This term describes the social environment within which the project is operating. There may be a specific social need for a project, or conversely, a building may be having adverse social consequences.

Physical

This relates to the physical conditions on the site. There may be difficulties associated with the site, or the climate may be bad; thus inclement weather is included in this category. Each contributor to the project will also have their own physical environment.

Aesthetic

There will be some sort of aesthetic influence around a project; whether it is through 'fashion' in building design, or whether it arises through the conscious choice by a client of a particular designer.

Financial

Financial limits always seem to exist on building projects. They are often clearly specified, but they may be based on inadequate information. Financial environmental forces are distinguished from economic ones on the basis that economics is to do with the deployment of resources, whereas financial limitations are strictly to do with money.

Legal

Legislation affects the client's activities directly, through factors such as safety, planning law, building regulations, etc. It also influences the contractual relationships within a project.

Institutional

This covers the influence that professional institutions can have over the conduct of the professional consultants. It affects conditions of engagement, fee scales, etc.

Technological

This aspect relates to the technology which is available to do the work, both in terms of the design work and the construction work.

Policy

The translation of these environmental influences will be undertaken by the client and when a decision to provide a building is taken, the interpretation of the environment will be translated into the policy for a project. This decision will have been based upon consideration of the environmental influences on the client's organization, and there may be some consideration of the project's effect upon the environment. These decisions form the immediate boundary to the building project as a system.” (Hughes, 1989)

2.9.4.2 Culture

Culture has been found to be an important factor having profound impact on procurement in construction. The following sections provide definitions and discussion of culture including organisational culture, national culture and the culture of the construction industry by various authors.

2.9.4.2.1 Definitions of Culture

According to Hofstede (1980) culture is “...the collective programming of the mind which distinguishes the members of one category of people from another”. According to Rowlinson et al. (2008) “culture refers to the

way of life of a group of people: pattern of behaviour that are seen to be useful and valuable to the people concerned and worthy of being passed on from one generation to another". Vecchio et al. (1992) defines culture as "the dominant set of learned, shared and interrelated behaviour within a society". Another definition of culture provided by Terpstra and David (1985) is that culture is a "compelling set of symbols, which provides a set of orientations for members of a society".

2.9.4.2.2 Organisational Culture

Denison (1990) and Joiner (2000) define organisational culture as a system of shared meaning within an organisation which influences how employees act. According to Thompson (1993) and Barthorpe et al. (1999) culture affects the way people make decisions, think, feel and act in response to the opportunity and threats affecting the organisation.

2.9.4.2.3 National Culture

According to Mwaura et al. (1998) the idea of differences in national cultures, based on cultural mapping techniques have been widely disseminated and is frequently used after publication of Hofstede (1980) seminal work titled *Culture's Consequences*. Mwaura et al. (1998) also state that the principal purpose of Hofstede's analysis was to differentiate between the assumed "shared" values held in organisations, and the "unique" values are specific to national cultures. Hofstede (1980) according to Mwaura et al (1998) believes that values identified as being widely held by members of a culture can be classified. Hofstede (1980); Olie (1995) and Mwaura et al. (1998) suggests that the values of a given nation are formed through its history, the people in the society and their institutions, i.e. family, education, religion, government, law, work etc., and are transmitted through generations. Hofstede (1987) defined these "unique values" as "a collective mental programming specific to individual national cultures", stating that members of a particular culture are conditioned to use such mental programmes. According to Mwaura et al (1998) national culture thus has values as its central component and given that each country's

culture has very different attitudes, values, beliefs, habits and convictions therefore different behavioural characteristics can be anticipated.

Hofstede (1994) differentiates between organisational or corporate culture from national culture by stating that membership of an organisation is normally partial, while membership of a nation is permanent. Mwaura et al (1998) states that according to Hofstede's (1994) employees' values cannot be changed because organisational cultures are composed of practices rather than values and practices can be managed to a considerable degree by changing the practices.

According to Hofstede (1980) people carry "mental programs" that are developed and reinforced through their experience, and that these "mental programs" contain a component of national culture. After analyzing the data from more than 40 countries, Hofstede (1980) concludes that these mental programs denote the existence of four underlying value dimensions along which these countries could be positioned into culture areas (Hofstede, 1980). Hofstede (1980, 1983, 1984, 1985) state that these four dimensions are:

1. "Power Distance, i.e. the extent of power inequality among members of an organisational society;
2. Uncertainty Avoidance, i.e. the extent to which members of an organisational society feel threatened by and try to avoid future uncertainty or ambiguous situations;
3. Individualism and Collectivism, which describes the relationship between the individual and the collectivity that is reflected in the way people live together;
4. Masculinity and Femininity, i.e. the extent of roles division between sexes to which people in a society put different emphasis on work goals and assertiveness as opposed to personal goals and nurturance". (Pheng and Yuquan, 2002)

According to Pheng and Yuquan (2002) these four dimensions are based on four fundamental issues in human societies within which every society has to find its particular answers. According to Hofstede (1980), they represent the basic elements of common structure in the cultural systems of the countries. Thus, they provide an important framework not only for analysing national culture, but also for considering the effects of cultural differences on management and organisation (Pheng and Yuquan, 2002). Hoecklin (1996) states that this framework is especially useful for understanding people's conceptions of an organization, the mechanisms that are considered appropriate in controlling and coordinating the activities within it, and the roles and relations of its members.

Similarly, Trompennars (1994) presents an advanced value-orientated dimension for examining cultures such as:

- universalism-particularism (rules relationship)
- collectivism-individualism (group-individual)
- neutral-emotional (expression of feelings)
- diffuse-specific (degree of involvement)
- ascription-achievement (method of according status)

Trompennars (1994) state that the ascription-achievement orientation stated above addresses the means by which a given culture assigns status within the society. According to Trompenaars (1994) achievement status refers to "doing" whereas ascription status refers to "being". Ascription, as opposed to achievement, assigns status and power based on some type of characteristic of the individual, for example, age, gender, education or profession (Ngowi, 2000). Ngowi (2000) states that in ascriptive societies like Botswana and Arab states, status requires no justification and simply implies "power". In addition, these societies associate status and power with position and they attribute obligation to one's standing in society (Hofstede, 1984). Achievement oriented societies, like Swedish and American, on the other hand, place a high emphasis on skill and knowledge, and authority is assigned on this basis

(Ngowi, 2000). Trompenaars (1994) further elaborated that fatalism is viewed in opposition to determinism. They each describe an individual's relationship with nature and the perception of free will within the world context and both exist in all societies and in all individuals (Ngowi, 2000). However, some cultures, such as the USA, which is classified as deterministic, favour the view that man is the master over his environment and they value harnessing and exploiting issues such as time, space and change (Schneider, 1992). Individuals in these societies feel unconstrained by environmental factors and are capable of self-improvement (Ngowi, 2000). In societies that tend to be more fatalistic than others, such as Botswana and Arab states, individuals share a lack of personal control over events (Ngowi, 2000). They believe that dominion over events lie with a greater power such as God and government, and that the individual is subservient to, or in harmony with nature (Ngowi, 2000). Thus, responsibility for events lies not with the individual but with nature or fate (Ngowi, 2000).

2.9.4.2.4 Culture of Construction Industry

Despite its size and universality, the construction industry in the developed countries is not homogeneous; it is, in effect, a fragmented and hierarchical industry (Barthorpe et al., 2000). Porter (1980) describes a fragmented industry as one in which no company has a significant market share, or as Male (1991) suggests, there is no market leader able to significantly influence outcomes within the industry. A fragmented industry is typically composed of a large number of privately-owned, small and medium sized companies and a small number of large companies (Barthorpe et al., 2000). Porter (1980) adds that a fragmented industry is populated by many competitors who are in a weak bargaining position with respect to both buyer and supplier groupings, and where profitability is marginal.

Male and Stocks (1991) suggest that there is a disillusionment with the wage structure in the industry. This according to Barthorpe et al (2000) forces a move towards self-employment which is also compounded by the fact that directly-employed operatives view themselves as becoming

increasingly marginalised and ill-rewarded for the level of skill possessed.

Ball (1988) indicates that construction is a hierarchical industry (designed by size of firm), where the many small companies tend to act as subcontractors to the large companies. According to Harvey and Ashworth (1993) the construction industry has characteristics that separate it from all other industries. These characteristics according to Harvey and Ashworth (1993) which impact significantly upon the cultural framework of construction industry are as follows:

- the physical nature of the product;
- the product is normally manufactured on the client's premises;
- many projects are one-off designs and lack available prototype models;
- the arrangement, where design has normally been separate from construction;
- the organisation of the construction process;
- the methods used for price determination.

According to Barthorpe et al. (2000) it is widely accepted by construction professionals and clients alike that the industry has suffered from confrontational attitudes, which are deep-rooted and a major barrier to improving its image. Barthorpe et al. (2000) also state that the consequent breakdown of trust and openness have received much attention in Latham's seminal report on the state of the construction industry, "Constructing the team" (1994). Latham's recommendations according to Barthorpe et al. (2000) focus on creating a commitment to achieving mutual goals and openness through a closer working relationship of partnering.

Root (1997) identifies and describes the cultural implications of the utilisation of standard forms of contracts and their effect on project performance. The existence of cultures and subcultures within the construction industry and their effect on the establishment of new roles

and relationships as exemplified in the New Engineering Contract (Barthorpe et al., 2000). Root's (1997) research makes five major assumptions that have been previously identified by Fellows et al. (1994) concerning the shared understandings, expectations, differences and similarities that exist between subgroups, developing cultures and subcultures (Barthorpe et al., 2000). According to Barthorpe et al. (2000) the accommodative function of the industry's culture experiences severe strain from the massive changes it experiences which evidences itself in an exponential increase in litigation.

2.9.4.3 Political

According to Weingast et al. (1981) democratic institutions has an important role in project procurement and they have identified three mechanisms that influence the politically optimal project choice which are the political cost-accounting mechanism, the districting mechanism, and the taxation mechanism. These features of the political economy according to Weingast et al. (1981) systematically transform the economic benefits and costs into political counterparts. They reason suggested by them is that since it is the latter as suggested above that determine the maximands (that which is trying to be maximum) for political actors and not their economic counterparts that governs the political choice. The principal conclusion of Weingast et al (1981) is that since political institutions fundamentally alter the perceptions and incidence of benefits and costs, they systematically bias project choices away from the outcomes that are most efficient. They also showed in their research in the context of distributive politics this affected larger projects and programs than are economically warranted (Weingast et al, 1981).

Murray (2007) states that at national, supra-national and international levels public procurement resides within legislative, administrative and judicial frameworks and much of those frameworks have been set by politicians. According to Murray (2007) since they are set by politicians through the development of legal regulation and establishing its precise contents, and hence he states that the influence of politicians on public procurement policy is pervasive (Murray, 2007). Murray (2007) also states that there is little understanding of politicians' views and as Ellram and Carr (1994) advocates

that research would be of benefit, which compares procurement's view of itself with that of top management. Murray (2007) further states that strategic public procurement cannot be considered strategic if it leaves out the role of politicians be it local, regional and national. The role of politicians is not fully understood and sometimes presented in a negative light (Murray, 2007). Politicians have major responsibilities for strategic procurement management as a result of democratic accountability (Murray, 2007).

2.9.4.4 Risk

The construction procurement process revolves around risks and risks management and both have an impact on the choice of procurement as well as project outcomes. The following sections provide definition of risk, types of risk in construction, areas of risk in procurement, risk management and risk allocation.

2.9.4.4.1 Definition of Risk

Risk can be described as *"the chance that an adverse event will take place during a stated period of time"* (Royal Society, 1991).

According to Edwards and Bowen (2004) risk is a social construct and it arises out of an individual's as well as a society's view of what constitutes risk. Different societies are likely to hold different views, and changes occurring in a particular society may bring about change in its views of particular risks (Edwards et al., 2005).

According to Edwards and Bowen (1999) "risk analysis is the systematic assessment of decision variables which are subject to risk and uncertainty. The risk analysis process comprises: the establishment of probabilities of occurrence of adverse events; the setting of assumptive bounds to associated uncertainties; and the measurement of the potential impact of risk event outcomes".

Edwards et al. (2005) states that risk is contextual and provides insight to this fact in light of Australian standards (AS/NZS 4360, 1999) which states that it arises in the context of situations involving people as individuals or as organisations. While Edwards et al (2005) state that the typical situational context mentioned above can include the achievement of objectives, undertaking activities or making commitments. They further state that risks arise through the uncertainties associated with the decision-making that accompanies each of these (Edwards et al., 2005).

2.9.4.4.2 Types of Risks in Construction

Edwards and Bowen (1999) have done a review of the literature on applications of risk analysis to construction, using the risk source as a basis; they have done a primary classification based on natural and human risks. Natural risks according to them occur outside human agencies or systems, while human risks arise within humanly organized systems (Edwards and Bowen, 1999). This approach to risk categorization as done by Edwards and Bowen (1999) is illustrated below in Fig. No. 2.5 they also subcategorise the human risks relating to construction and project risks which include social, political, economic, financial, legal, health, managerial, technical and cultural risks. They also suggest that the list of construction risks shown against each sub-category in Figure 2.7 below should not be treated as exhaustive.

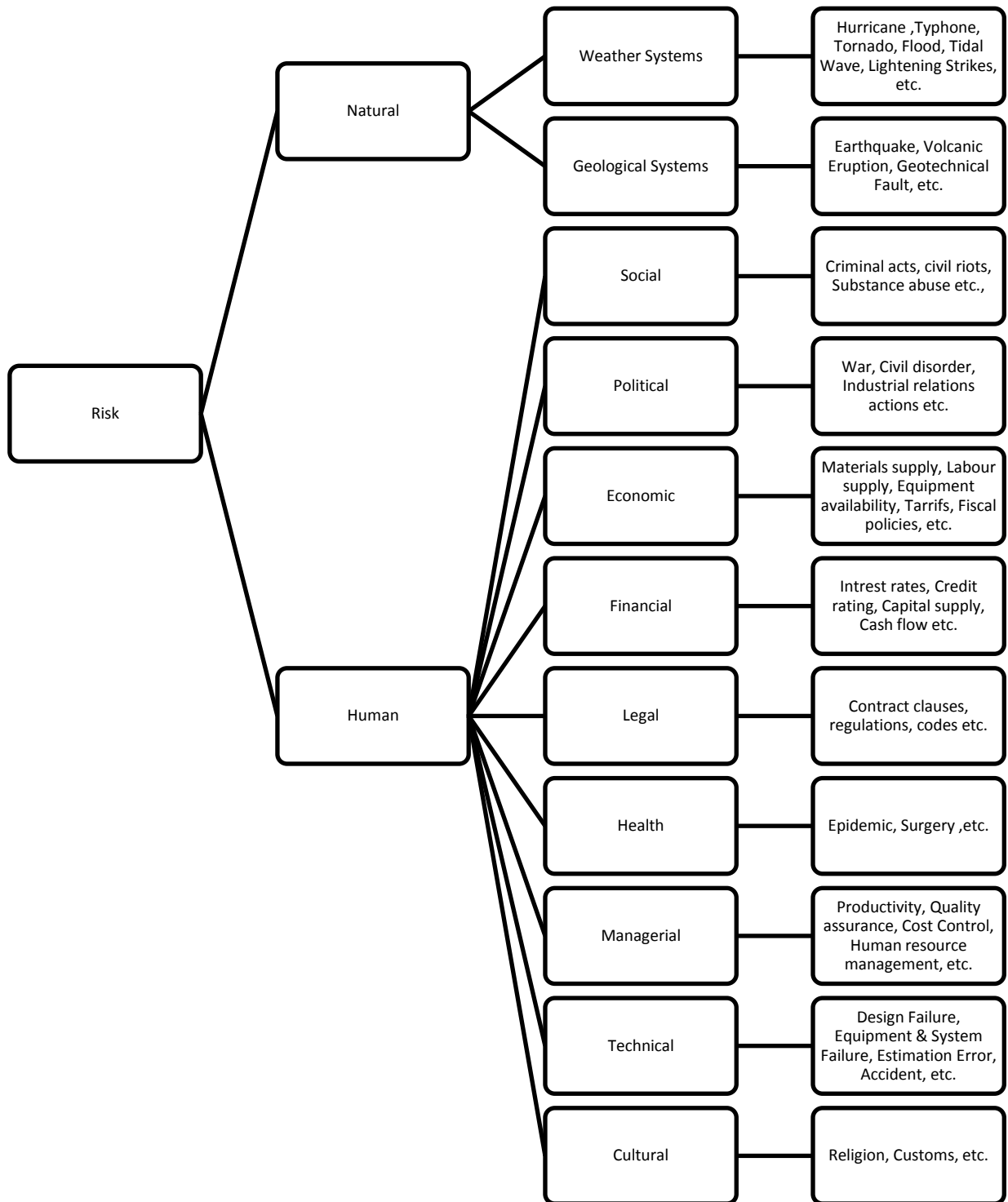


Figure 2. 7: Risks in Construction Projects (Edwards and Bowen, 1999)

2.9.4.4.3 Areas of Risk in Procurement

According to Miller et al. (2009) the Victorian Government (Australia) (2001) have identified the following areas of risk in procurement projects:

- “Site risk
- Design, construction and commissioning risk
- Sponsor and financial risk
- Operating risk
- Market risk
- Network and interface risk
- Industrial relations risk
- Legislative and government policy risk
- Force majeure risk
- Asset ownership risk” Miller et al (2009)

Mustow (2004) suggests that there is an increasing pressure for organisations to reduce corporate risk through adopting ethical procurement practices. Mustow (2004) also points out that presently construction industry purchasers have only limited amount of information to determine the ethical credentials of the products that they buy. While Young and Kielkiewicz-Young (2001) describe using sustainable supply network management techniques that it is possible, to some extent, for purchasers to collect this information themselves. However Miller et al (2009) suggests that this is costly and time consuming, which according to them partly explains why few companies are attempting to implement ethical procurement (Miller et al., 2009).

2.9.4.4.4 Risk Management

Risk management is described by Australian Standards (2009) as, “an iterative process consisting of well defined steps which, taken in sequence, support better decision-making by contributing a greater insight into risks and their impacts”. In essence risk management is good management practice (ACEA, 2008). Bowden *et al.* (2001) view risk management is that it is a “*continually reviewable cycle*”. According to Edwards and Bowen (1999)

“risk management is a systematic approach to dealing with risk. A risk management system should: establish an appropriate context; set goals and objectives; identify and analyse risks; influence risk decisionmaking; and monitor and review risk responses” (Edwards and Bowen, 1999).

Edwards et al. (2005) states while modifying the approach of AS/NZS 4360 (1999), suggests that the steps in a risk management cycle would include establishing the context; identifying risks; analysing risks; responding to risks; monitoring and controlling risks; and capturing project risk knowledge. Edwards et al (2005) suggest that the last stage mentioned above i.e. capturing risk knowledge can be implemented at two levels: “(a) in a risk register as the stakeholder’s documentary record of risk management system for an individual project; and (b) an organisational database of stakeholder’s project-related risk experience and knowledge” Edwards et al (2005). According to Miller et al. (2009) the ‘science’ of risk management seeks to identify, prevent, contain and mitigate risks in the interests of the project and to them risk management is an ongoing process which continues throughout the life of a project and occurs in five stages which are described below:

- (i) **Risk identification.** The process of identifying all the risks relevant to the project;
- (ii) **Risk assessment.** Determining the likelihood of identified risks materialising and the magnitude of their consequences if they do materialise;
- (iii) **Risk allocation.** Allocating responsibility for dealing with the consequences of each risk to one of the parties to the contract, or agreeing to deal with the risk through a specified mechanism which may involve sharing the risk;
- (iv) **Risk mitigation.** Attempting to reduce the likelihood of the risk occurring and the degree of its consequences for the risk-taker;

- (v) **Monitoring and review.** Monitoring and reviewing identified risks and new risks as the project develops and its environment changes, with new risks to be assessed, allocated, mitigated and monitored". Miller et al (2009)

Miller et al. (2009) further states that this process continues during the life of the contract and in actual practice many of these stages do not occur in isolation. They also state that risk allocation does not simply take place on a 'risk by risk' basis detached from the output specifications, payment structure, government policies and the contract itself. (Miller et al, 2009)

2.9.4.4.5 Risk Allocation

According to Morledge et al. (2006) "risk should be allocated on the basis of responsibility and control to those best able to manage it and in a manner likely to optimise project performance". They further state that ideally the risk allocation should be done through contract documents. Morledge et al (2006) suggest that conventionally in construction the clients have been introverts in taking on responsibility, but recently the 'enlightened clients' have come up with a view that value for money in the finished project and according to them it can be significantly enhanced through a proper and responsible allocation of risk.

Morledge et al. (2006) also states that the incentives and risk go hand in hand and together and a party responsible for carrying a risk has the incentive to minimise its impact. But assuming responsibility for a risk often has a significant cost attached to it which must be paid eventually by the client a good example is of insurance premium (Morledge et al., 2006)

The traditional method for allocating risks in the construction industry is provided by Morledge et al (2006) which is as follows:

- Risk is allocated from client to designer and contractor(s)
- Risk is allocated from either client, designer or contractor (main or sub) to insurer

- It is allocated from client, financier, developer, purchaser or tenant to professionals (architect, engineer) or contractor by collateral warranty
- It is allocated from main contractor to sub contractor
- It is allocated from contractor (main or sub) to guarantors or sureties

Historically the process of risk allocation in the construction industry has been driven from top to bottom (Morledge et al., 2006). Morledge et al (2006) states that traditionally in the construction industry clients have unilaterally assigned their risks to designer and contractor regardless of who is best able to control them. According to them this process is commonly termed as 'risk dumping' and is widely considered to be counterproductive. As indicated by Morledge et al. (2006) risk should be equated to the expertise, role and reward of the party to whom it is assigned. They further state that when assigning risk therefore it is reasonable for a contracting party to bear risk in any of the following cases:

- "If the party can cover a risk by insurance, and it is reasonable for the risk to be dealt with in this way
- If the risk is of loss due to party's own misconduct or lack of reasonable care
- If it is in the interests of efficiency to place the risk on the party
- If the economic benefit of running the risk accrues to the party" (Morledge et al., 2006)

Morledge et al (2006) further states that "it is important to consider the willingness of the respective parties to take on the risks. The allocation of project risks, contractually, has historically been in the hands of the client, but modern strategic procurement techniques now hold that most cost-effective allocation of risk is derived from consensus not decree".

2.9.4.5 Performance Requirements

According to the seminal work conducted by Nahapiet and Nahapiet (1985) they state that projects vary in the levels of performance to be attained. Hence performance requirement according to them can be stated as a major factor

affecting procurement. They also state that in some cases, there is a perceived requirement for very high performance in respect of speed and/or cost while on other projects the perceived performance requirement is lower, i.e. there appears to be more 'slack' (Nahapiet and Nahapiet 1985). The concept of 'slack' used by Nahapiet and Nahapiet (1985) is taken from March and Simon (1958) and Cyert and March (1963) to refer to a situation in which the resources available exceed those required to undertake a particular task. According to the study conducted by Nahapiet and Nahapiet (1985) it was found that for those projects described as having low performance demands it was found that rather in undertaking the project, a tight cost or speed constraint was not identified as a major force driving the project. Nahapiet and Nahapiet (1985) also was found that all projects with a clear and tight driving force, either speed or cost were managed by the non-traditional forms of contract. In all cases Nahapiet and Nahapiet (1985) found that these performance requirements i.e. speed and or cost were identified as a major factor considered when selecting the contractual arrangements for the projects.

2.9.4.6 Project Characteristics

According to Luu et al (2003) project's characteristics comprise "project type", "project size" and "building construction type". Project characteristics is an important factor effecting procurement and according to Morledge et al (2006) the size, complexity and the location of the project should be carefully considered and particular attention given to projects with novel elements. Morledge et al (2006) states that large and complex projects have a bigger risk of cost or time overruns while novel project present special risks. They also state that for novel projects the novelty potential factor means that estimates of time, cost and performance are all subject to the possibility of greater error with an increased risk of one or more of the project's objectives failing (Morledge et al., 2006). Nahapiet and Nahapiet (1985) found that it was useful to characterize projects in terms of their relative complexity, believing that this was likely to be at least one important determinant of the need for flexibility. The more complex projects are the more likely it is to be more difficult to manage and to encounter more exceptions (Nahapiet, 1985). They thus according to Nahapiet (1985) requires a greater need for modifying plans and actions on an ongoing basis. Luu et al (2003) suggest that an increase in project magnitude or

a shift in project type could present escalated demands on the contractor due to the more demanding technological, administrative and legislative requirements, viz. occupational health and safety, quality assurance, industrial relations, site labour management, etc. Many researchers such as NEDO (1985); Skitmore and Marsden (1988); Turner (1990); Love *et al.* (1998) and Luu *et al.* (2003) argue that “project size”, “project type” and the construction type could in turn affect the ultimate performance of a project and this is reflected by the project’s physical characteristics, hence projects characteristics therefore should be carefully selected and used.

2.9.4.7 Lack of understanding of appropriate methods of procurement

Naoum (1994); Luu *et al.* (2005) and Miller *et al.* (2009) states that the lack of understanding of procurement methods, strategies and systems can and does result in inappropriate procurement solutions and also states that this lack of understanding is not specific to any one group involved in the process. Miller *et al.* (2009) suggests that the client is the most likely to wield the most influence in the choice of procurement route and the input of other key player’s such as consultants, contractors etc can also be significant. Nam and Tatum (1997); Slaughter (1998) and Miller *et al.* (2009) states that professionals such as consultants etc can be champions of change, while Shield (2005) and Miller *et al.* (2009) states that professionals involved in procurement process are typically conservative and reluctant to implement change. Similarly level of expertise and degree of experience would influence the learning needs of clients (Nahapiet and Nahapiet, 1985). Therefore as suggested by Miller *et al.* (2009) for optimum project outcomes it is of paramount importance that all parties involved in the procurement decision making process are fully aware of the issues and possible solutions.

2.10 Supply Chain Management in Construction

Supply chain management has gained tremendous importance and attention in construction in developed countries over the years. The following sections provide definitions of supply chain management in construction, origins of supply chain management, concept of supply chain management and supply chain management practise in construction.

2.10.1 Definition in construction

According to Love et al. (2004) the definition of supply chain management (SCM) in construction is as follows:

“...the network of facilities and activities that provides customer and economic value to the functions of design, development, contract management, service and material procurement, materials manufacture and delivery, and facilities management” (Love et al., 2004).

2.10.2 Origin of Supply Chain Management (SCM)

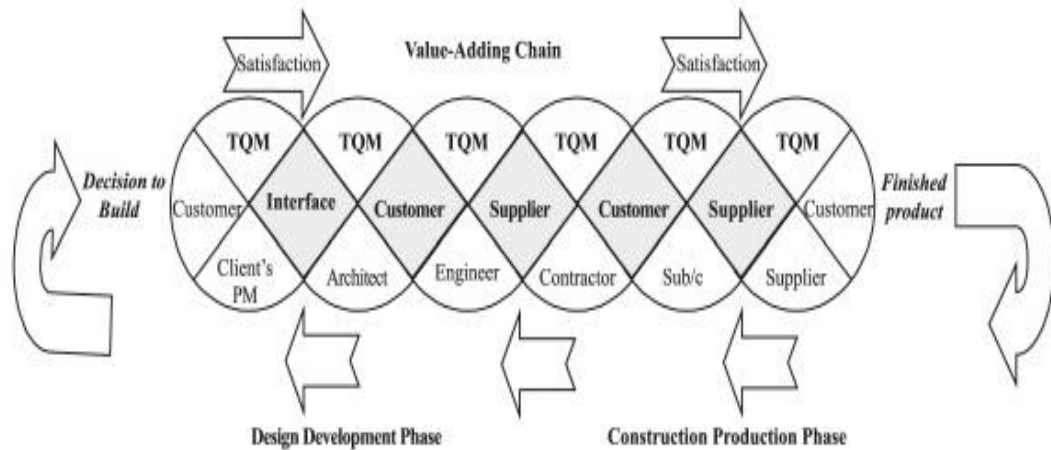
SCM is a concept that has originated and flourished in the manufacturing industry. The first signs of SCM were perceptible in the Just in Time (JIT) delivery system as part of the Toyota Production System (Shingo 1988). This system aimed to regulate supplies to the Toyota motor factory just in the right - small - amount, just on the right time (Shingo 1988). The main goal was to decrease inventory drastically, and to regulate the suppliers' interaction with the production line more effectively (Shingo 1988). After its emergence in the Japanese automotive industry as part of a production system, the conceptual evolution of SCM has resulted in an autonomous status of the concept in industrial management theory, and a distinct subject of scientific research (Bechtel and Yayaram 1997, Cooper et al. 1997). Along with original SCM approaches, other management concepts (e.g., value chain, extended enterprise) have been influencing the conceptual evolution towards the present understanding of SCM (Van der Veen and Robben 1997). They also suggest that the concept of SCM represents a logical continuation of previous management developments (Van der Veen and Robben 1997). Although largely dominated by logistics, the contemporary concept of SCM encompasses more than just logistics (Cooper et al. 1997). Actually, SCM is combining particular features from concepts including Total Quality Management (TQM), Business Process Redesign (BPR) and JIT (Van der Veen and Robben 1997).

2.10.3 Concept of Supply Chain Management (SCM)

The supply chain has been defined as “the network of organisations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer” (Christopher 1992). According to Cooper and Ellram (1993) SCM looks across the entire supply chain, rather than just at the next entity or level, and aims to increase transparency and alignment of the supply chain’s coordination and configuration, regardless of functional or corporate boundaries. According to (Cooper and Ellram 1993), the shift from traditional ways of managing the supply chain towards SCM includes various elements. Koskela (1992) states that the traditional way of managing is essentially based on a conversion (or transformation) view on production, whereas SCM is based on a flow view of production. Koskela (1992) also states that the conversion view suggests that each stage of the production is controlled independently whereas the flow view focuses on the control of the total flow of production.

2.10.4 Supply Chain Management (SCM) Practice in Construction

According to authors such as Akintoye et al. (2000); Vrijhoef and Koskela (2000); Love (2000); Dainty et al. (2001) and Love et al. (2004) the application of SCM philosophies in construction is at the stage of infancy presently organisations are beginning to comprehend its intrinsic value. Pearson (1999) states that in the construction industry in the UK partnering has been replaced by SCM but only a few UK clients and use SCM as an integrative part of their business strategy for procuring their projects. Furthermore, Pearson (1999) also states that these clients and contractors have reduced their supplier base and have established and nurtured relationships with suppliers by organised training programmes to encourage a cooperative approach to problem solving and developed systems for rating suppliers performance on quality, speed and prices (Love et al., 2004). Love et al. (2004) states that by doing so, clients and contractors hope to derive greater discounts from a smaller number of firms by supplying each with a greater volume of work. Pearson (1999) state that these firms involve the suppliers at an early stage during the project so as to acquire their expertise about design and procurement issues. Wong and Kanji (1998)



(1944); Banwell, (1964); Latham (1994); and Egan (1998) all these reports in the UK have widely criticised the separation of the design and production process in projects while in SCM they are integrated. Love et al. (2000) have suggested that each organisation involved with a project is both a customer and supplier and therefore consideration should be given as to how each party can add value throughout the supply chain as also shown in Figure 2.8 below which is in accordance to Lamming (1996) suggestion that value should be given more attention in a process rather than its cost. Love et al (2004) suggest that most research has tended to focus on specific operational and tactical aspects of the supply chain, for instance Akintoye et al. (2000) who focus on client-contractor relations, Vrijhoef and Koskela (2000) focus on contractor subcontractor/supplier interface, Love et al. (1999) on rework, Ofori (2000) on environmental performance, Khalfan et al. (2001) on design management, Hoxley (2001) on service quality and Dubios and Gadde (2000) focus on purchasing behaviour. According to Love et al (2004) and Barker et al. (2000) there is dearth in research on a holistic approach to SCM as applied to construction projects.

Figure 2. 8: Customer-Supplier Interface in the Project Supply Chain (Love et al., 2004)

2.10.4.1 Procurement Drivers

Smyth (2005) states that the agenda for supply management practices on construction projects originated from clients. According to him it is largely procurement driven and the dominant strategy of contractors being to emulate the client approach push the procurement model along the supply chain (Smyth, 2005). Smyth (2005) states that the procurement process starts with the client recognising a pressing business requirement for which the objective for the contractor is to meet the expectations of the client which he terms as the procurement drivers. Smyth (2005) states that in construction, the initiative or drive emanated from the clients, communicated through reports such as the one in the UK "Rethinking Construction" (Egan, 1998).

2.10.4.2 Procurement Push

Smyth (2005) says clients have clearly stated that they are not content to accept construction projects that do not meet the iron triangle of time, cost, quality or scope and according to him the clients are increasingly looking for continuous improvement. He also states that in construction in the UK clients have driven the agendas forward and as a consequence of it in construction contractors tend to receive the initiatives of clients as market demands placed upon them (Smyth, 2005). He states that supply chain management has therefore been adopted in construction as a response to client demand. Therefore he states that clients driving continuous improvement will use supply management as a procurement push (Smyth, 2005). Contractors are recipients of the procurement push model (London and Kenley 2001). Smyth (2005) suggests that it is economically optimum to push it along the supply chain to the next party and the responsibility is

therefore transferred to the next supplier or subcontractor to respond to the clients push. The next party responds in like manner, the conceptual logic being the suppliers at the end of the chain squeeze costs (Smyth, 2005). Smyth (2005) states that there are clear limits to this and “this procurement push along the supply chain translates the intrinsic client interest in value into a contractor interest in repeat business from the same client or through referral markets, the consequence being: (i) loss of interest in adding further value along the chain, (ii) continuous improvement prematurely reaches the law of diminishing returns through a primary cost reduction focus, (iii) supply chains may be rationalised in terms of the number of suppliers for each link in the chain, yet the procurement push increases chain length in order to squeeze the lowest costs possible, hence those doing the work at the bottom of the chain will not have the resources to add value nor necessarily be aware of the strategic principles at the top of the chain” (Smyth, 2005).

2.10.4.3 Marketing Drivers

Smyth (2005) states that the customer seeks to buy in the market, utilising a procurement strategy or approach while the supplier seeks to sell in the market, utilising a marketing strategy or approach. According to Smyth (2005) procurement and marketing are closely related and he states that they are two sides of the same coin. Marketing develops strategies to create a satisfied customer, whom is retained (Levitt 1983) and relationships are the vehicle to mobilise change, which includes continuous improvement through supply chain management (Gummesson 2001; Smyth 2000; Green and May 2003). Smyth (2006) state that in construction historically marketing has been addressed by structural solutions to the market. Smyth (2005) states that in order for the contractor to effectively manage transaction costs they tend to set up different divisions for each market based on type of procurement. He states that the motivation for this is to manage transaction costs and not to maximise service to the client. Smyth (2005) state that there is a need for contractors especially large contractors to adopt the full range of marketing functions in the construction industry.

2.10.4.4 Marketing Pull

Smyth (2005) states that the logic of the procurement push is that there should be a marketing pull in order that forces are maximized to add further value. According to him the marketing pull concerns absorbing the client requirements and responding to them instead of passing them on (Smyth, 2005). He states that the marketing mix paradigm in context of construction has serious shortcomings as it emphasises on price (Smyth 2000, 2004). Smyth (2005) suggests that another main marketing paradigm is the relationship marketing (RM) and Grönroos (2000) and Gummesson (2001) have provided seminal overviews regarding relationship marketing (RM). In the case of construction the RM paradigm has been set out by Smyth (2000).

Smyth (2005) state that relationships have to be managed for benefit of business and to accrue investment and cost incurred in order to produce net profits through these relationships. According to Smyth (2005) “effective relationship management (RM) leads towards a relationship management approach, functioning upon the premise that it is through relationships and the associated effort that further value can be levered between parties in the chain, hence increasing added value”. Smyth (2005) also relates this to the construction product and the client experience of quality service not just in terms of time and cost but also managing uncertainties and risks and helping to reduce stress hence increasing satisfaction of the experience (Smyth, 2005). He also state that client satisfaction for the contractor implies greater referral and repeat business. He also suggests that the improving performance through relationships can induce efficiencies to reduce net increases in transaction costs. Smyth (2005) states that effectiveness in the long term improves the profit margin for a large or complex project and yields a relationship profit from a programme of projects.

2.11 Construction and Procurement Practices of the Developed World (Adapted from Morledge et al., 2006)

The following sections have largely been adapted from Moreledge et al (2006) but are not entirely limited to it alone and provide a snapshot of the construction and procurement practises and approaches of the developed countries such as United Kingdom (UK), the European approach and China. In the following sections UK is not disused in much detail as previous literature has mostly been in context of the UK, instead heedful attention has been paid on Europe and China so as to develop an understanding and appreciation of different approaches used by different developed countries.

2.11.1 Europe

According to Morledge et al (2006) the European construction industry has several distinct groupings of countries whose construction industries share common characteristics. According to Oliver and Taylor (1993) four basic groupings have been identified which are as follows:

1. “The traditional British system (UK and Ireland)
2. Countries using French system
3. The northern European approach
4. The Mediterranean approach”

2.11.1.1 The United Kingdom

According to Morledge et al (2006) construction procurement in the UK in early days was heavily influenced by the prevailing legal system, the social and business environment and evolving needs of the public sector. They state that evolution of in the “UK was gradual and the evolved from the trade centred construction industry of the Middle ages, through the development of the independent architect as artistic project designer, the development of those civil and structural engineering skills, many derived from military engineering practice, required to drive the industrial revolution, and rise of the general contractor in response to the building booms of the nineteenth century.

Furthermore it is equally evident that those same procurement approaches would have been exported to the developing world as a by-product of the nineteenth century". (Morledge et al., 2006)

Throughout the literature review the British system has already been considered in some detail the other European systems and the Chinese System are considered below in brief:

2.11.1.2 The French System/ Approach

Morledge et al (2006) states that France, Belgium and Luxembourg all use variants of the system historically developed in France. Statutory and legal requirements are achieved through a more complex and more highly regulated series of relationships than in the UK. They also state that the architect and contractor are jointly responsible for the condition of the building for 10 years following completion and decennial 10 year defects and insurance is almost universal. According to them the client's insurer therefore exercises a substantial degree of control over both design and construction. Under the French system the obligations and responsibilities inherent in relationships between the parties are clearly stated and standard contractual procedures are in place. (Morledge et al., 2006)

Morledge et al (2006) states that in the French system and in public sector the designers' contracts often include target costs which if under or over estimated, trigger burdensome penalty clauses. According to them the apportionment of risk between the designer and contractor is dictated by the scope of the designer's contract, which may be limited to scheme design or may include full working drawings. It has been claimed by them that this situation creates defensive attitudes and generates a large number of disputes (Morledge et al., 2006).

Morledge et al (2006) suggest that in France generally there are far fewer disputes over contractual matters between the contractor and the client and a greater degree of mutual trust than in comparison to the UK. They suggest that this may have its basis in the way the construction process is organised and the

insurance system. They also state that in France there is a predominance of a develop and construct approach and the contractor cannot blame the client when things go wrong. Additionally, the contract documentation is weighted more in favour of the client and has a higher weighting than is usual with standard contracts in the UK (Morledge et al., 2006).

Morledge et al (2006) states that in France in the past decades there have been substantial evidence of concentration in the sector as larger companies have bought out smaller rivals specifically to target more effectively the public sector. They also state that this initially was done by larger firms to develop clearly differential marketing strategies aimed at securing work in the public sector. According to them the subsequent developments involved further mergers and acquisitions between some of the larger players and a renewed concentration on the private sector, with construction firms diversifying into property development, property and facilities management and urban design (Morledge et al., 2006).

According to Morledge et al (2006) in France a variety of new procurement methods have been introduced, including the revival of an ancient form of contract, the *March'ed'Enterprises Travaux Publics* (METP). They suggest that the METP is in fact a form of build-operate-transfer (BOT) contract under which local authorities can let contracts requiring the contractor to both construct a specified facility and manage the service of that the facility and payments spread over a number of years after which the facility is returned to the local authority (Morledge et al., 2006).

2.11.1.3 The Northern European Approach

As the name suggests according to Morledge et al (2006) this approach is used in northern Europe, primarily by Sweden, Denmark, Germany, Austria and the Netherlands. Morledge et al (2006) states that the northern European group is characterised by very comprehensive sets of national standards which tend to act as 'best practice' guides for the industry. They further state that the control is achieved through strict adherence to statutory requirements, rigid checking by the responsible authorities and by clear definition of roles and responsibilities

of the parties in the industry. They also states that in this approach the standard contractual procedures are in place broadly there are only two forms of contract and the balance of risk appears to act rather more in the contractor's favour than in usual in the UK system (Morledge et al., 2006).

In this approach they state that the architect traditionally carries out most of the pre-contract process including design, preparation of an appropriate cost estimate, and preparation of the building performance specification and control of the tendering process (Morledge et al., 2006). They also state that the architect also prepares the contract programme and supervises the work on site on behalf of the client. In case of smaller projects bills of quantities are sometimes prepared by architect or engineer and the quantities can be firm or remeasured on completion (Morledge et al., 2006). In case of larger contracts they are almost always let on lump sum basis based on a performance specification (Morledge et al., 2006).

Morledge et al., (2006) states that in countries where this approach is used there appears to be a less confrontational approach to contracting, and the reason according to them is due to the fact that high degree of regulation that has less scope for claims and disputes to arise. They suggest that disputes are more often settled by informal negotiation based upon the working relationships developed by the parties, rather than by reference to contract documents in this approach (Morledge et al., 2006). They also suggest that in this kind of approach there is a greater expectation of team working and that contractors wish to develop longer-term relationships with clients (Morledge et al., 2006).

Morledge et al (2006) states that in these countries during the recent years there has been a significant development in the construction industries. They state that in Denmark and Sweden, construction management and design and build contracts have made significant inroads into the market. While they also state that in case of Germany partnering and other collaborative forms of procurement are effectively non-existent. They state in contrast to Germany partnering and other collaborative forms of procurement have been increasingly used successfully in Scandinavia. Morledge et al (2006) states that in case Germany after its reunification, contractors have attempted to seize more

control of the development and construction process from the clients by providing more integrated services and had resulted in the development of some design and build contractors and design and management contractors. According to them in Germany it is known as *Projectentwickler* which literally means a project developer, in which the developer takes on the full range of tasks involved in integrating the whole development and construction process (Morledge et al., 2006).

2.11.1.4 The Mediterranean Approach

Morledge et al (2006) have grouped construction industries from Greece, Italy, Portugal and Spain and have termed this group as Mediterranean. They state that there are quite a lot of similarities between members of this group particularly in philosophy but they also suggest that there is also more diversity in this group than in any of the others groups they have discussed. According to them the similarities between them lie more in the ways in which they differ from the UK system rather than in their similarity to each other.

Morledge et al (2006) compares the public administration in the countries among this group and states that all are very bureaucratic and slow to respond except Spain to a lesser degree. Morledge et al (2006) further states that the procedures for public tenders in this group tend to be lengthy, inefficient and expensive. In case of private sector they state that the private sector is characterised by networks of personal and company relationships which influence how the work is shared (Morledge et al., 2006).

Morledge et al (2006) also state that the contractual relationships are governed to a large extent by national civil codes and according to them the concept of standard conditions of contract outside of the public works area is often seen as a limit to the flexibility of the parties involved and has not been widely taken up although standard forms of contracts do exist in some areas (Morledge et al., 2006).

Regarding business relationships Morledge et al (2006) states that they are carefully nurtured and maintained and disputes are therefore subject to very

lengthy negotiation. They also state that the leisurely pace of the administration of justice in these countries combined with significant inflation rates makes it generally uneconomic to resort to litigation for settlement of private disputes (Morledge et al., 2006).

Morledge et al (2006) suggests that in all of these countries, networks of relationships are fundamental to the way in which business is carried out. And further suggest that politics and business are very close and those in the network exercise significant control. In contrast to the UK approach in these countries an engineer is the dominant professional with architects having virtually no role in project supervision (Morledge et al., 2006).

2.11.2 Chinese Approach

Chinese approach is quite interesting as according to Morledge et al (2006) modern mainland China has two separate and distinct construction industries:

1. “The external industry which is largely not controlled by the Ministry of Construction
2. The internal industry, which is still officially state controlled through the Ministry of Construction” (Morledge et al., 2006).

- **The External Construction industry**

According to Morledge et al (2006) in China the external construction industry consists of foreign-funded projects where investors prefer to see their projects built by firms they know and trust, and controlled by techniques they understand. They also state that a substantial number of projects, including those by external Chinese investors are handled from Hong Kong and therefore tend to follow the conventional British System using modifications of the Hong Kong Standard Method of Measurement of Building works (HKSM) and standard forms of contracts (Morledge et al., 2006). They further states that construction can be carried out by Chinese firms, and project documents are also often prepared in Chinese. Moreledge et al (2006) differentiates between China and the other countries by stating that China insists that although foreign

architects may prepare designs, they must work in partnership with state-controlled local design institute. And this is seen essential in order to ensure that buildings comply with Chinese regulations and it also aids technology transfer to China (Morledge et al., 2006). Many foreign construction companies operate in China although mostly in joint ventures with the Chinese firms but in 1995 the American company Bechtel became the first overseas construction company to obtain a construction license allowing it to tender for projects without a local partner in China (Morledge et al., 2006).

Moreledge et al (2006) also states that China is a major exporter of construction services in the world market and presently is competing for large projects and earning valuable foreign exchange through companies such as the China State Construction Engineering Corporation, which has been involved in more than 4000 projects in more than 50 countries (Morledge et al., 2006).

- **The Internal Construction Industry**

According to Moreledge et al (2006) the indigenous Chinese construction industry works rather differently than the external construction industry discussed above. They provide the background for it stating that traditionally under the communist system private ownership of land and buildings is not permitted. Hence they state that projects are therefore identified by either central or local government administration. They explain the process stating that an initial budget price for the work is calculated by one of the state-run design institutes using standard schedule of rates and funds are then allocated in the form of a loan from the Peoples Construction Bank. They also state that once funds are allocated the project is designed by the design institute and which also prepares the schedule of material and estimates of costs by reference to standard method of measurement and a schedule of rates sanctioned by the Ministry of Construction (Morledge et al., 2006). After the approval of the pre-construction estimate the work is then given to a state-organised construction work unit and materials are supplied according to the schedule and construction commences (Morledge et al., 2006).

Morledge et al (2006) also state that this centrally planned approach has been criticised in recent years as being cumbersome, bureaucratic and uncompetitive, and a number of attempts have been made to introduce some form of competitive tendering. They also state that the development of the Chinese economy has moved away from communism to a system of a 'market economy with Chinese characteristics' in recent years. They state that this system is designed to allow china to benefit from capitalist competition while still allowing the state to retain an iron grip on political and economic power (Morledge et al., 2006).

2.12 Procurement Practices in Developing Countries

The following sections focus particularly on developing countries and the literature and research conducted on construction and procurement in developing countries.

2.12.1 Definition of Developing Countries

According to World Bank (1997 & 2004) developed countries or industrial countries, or industrially advanced countries are countries having high income and in which most people have a high standard of living. Developing countries according to the World Bank classification are countries with low or middle levels of Gross National Product (GNP) per capita. They also state that more than 80 percent of the world's population lives in the more than 100 developing countries (World Bank, 2004).

Ofori (2000) criticises the World Bank classification by income and states that it 'does not reflect development and status'. He further states that the United Nations and its agencies use a similar classification (Ofori, 2000). The term 'developing countries' as defined by World Bank has been used in this research and refers to the low and middle income countries. According to Ofori (1991) which states that the definition of developing countries is problematic as countries referred to as 'developing' are dissimilar in levels of socio-economic development and resource endowment, as well as future prospects (Ofori, 1991). He concludes that the situation in each country is different (Ofori, 1991) and Ofori (2000) further illustrates this fact that developing countries are dissimilar and gives an example, that among

countries in Asia including China, with a large economy but low income owing to a large population, which is attracting massive foreign investment because of its acknowledged potential in contrast to India, which has similarly huge prospects and low current income, but which is not attracting as much foreign direct investment as compared to Laos (Ofori, 2000).

2.12.2 General Problems Facing the Construction Industry in Developing Countries

Several authors and organisations such as Abrams (1964); United Nations Industrial Development Organization (1967); Andrews et al. (1972); Turin (1973); Edmonds (1979) and Ofori (1993) have identified several inter-related problems facing the construction industries of the developing countries which are “(a) frequent shortage of construction materials resulting from the preference of users for conventional materials, most of which were imported; (b) low level of technological development of most of the industries, with shortages of plant and equipment, inadequate R&D facilities and programmes, and poor linkage between research and practice; (c) lack of skilled construction personnel, and a poor social image of construction; (d) an unfavourable operating environment for construction enterprises, with complex procedures and regulations, delays in payments, and unsuitable contract documents; and (e) low and fluctuating overall levels of construction activity” (Ofori, 1993).

Moavenzadeh (1978) states that few statistics exist on the exact nature of construction firms in developing countries and the general trend according to him was to be towards the fragmentation. He also states that in most developing countries a generous portion of construction lies in the traditional sector and is concerned with small projects in rural areas which are carried out in the non-monetary sector of the economy, and thus little is known about it (Moavenzadeh, 1978). He also states that the remaining construction activity, largely projects dealing with infrastructure and urban development is executed by means which vary with the level of development (Moavenzadeh, 1978). The nature of participant relations and contractual arrangements is another management issue of significant importance in developing countries (Moavenzadeh, 1978). He also states that a major shortcoming of contractors in developing countries is their lack of managerial

skill, especially with regard to competitive bidding and their inability to perform accurate cost estimating results in their tendency to frequently underbid in fear of losing the job (Moavenzadeh, 1978).

These above had been stated 30-40 years ago the obvious question coming to mind is what is the state of affairs now? After conducting a thorough literature review on developing countries the researcher is able to state that the state of affairs is yet in status quo and has not progressed further regarding research and information on developing countries. Hence throughout the literature review the reader may find literature around 40 years or older.

2.12.3 Key Actors and Players in the Construction Procurement in Developing Countries

According to Moavenzadeh (1978) the participants in construction in developing countries like the developed countries are traditionally divided into three groups which are stated as follows:

- the owner or the client
- the professionals
- the contractors

He further says that in developing countries in particular the participants who are each from an independent organisation and selected on the basis of price and/or qualifications, are gathered together on a project-by-project basis and are generally brought into the project only when needed (Moavenzadeh, 1978). The following sections provide brief explanations of the three groups stated above.

2.12.3.1 The Owner or the Client

Just like the developed countries Moavenzadeh (1978) states that the owner, who may be an individual, a corporation, a branch of the government, or some other private or public organisation, combines with planners, investors and developers to form the client sector which initiates and finances the project (Moavenzadeh, 1978). The client's activities throughout the construction process primarily involve the assessment and approval of the activities of the

other participants (Moavenzadeh, 1978). According to Ofori (1991) in developing countries the commercial development sector is weak, thus, most contractors rely on the public client, Kirmani (1988) states that public sector accounts for over 70% of construction demand in developing countries.

2.12.3.1.1 The Role of the Government (the Public Client)

The role of the government in construction in developing and developed countries is important and varied; the governments of developing countries can influence the price and availability of certain materials and thus the type and technical sophistication of construction by owning and operating major construction materials manufacturing plants (Moavenzadeh, 1978). He further states that by providing preferential treatment to a particular sector of the construction industry, the government can substantially affect the distribution of available manpower in the industry and increase the tendency for technological innovations (Moavenzadeh, 1978). According to Ofori (1991) the public client has an important role to play, especially in relieving the financial constraints on contractors' operations by streamlining procedures for processing contractors' payment certificates (Ofori, 1991). Ofori (1991) also states that the government as regulator can establish building codes and related regulations placing external constraints on the industry.

2.12.3.2 The Professionals

Like the developed countries in developing countries professionals like the architects, engineers and consultants form the professional sector of the country's construction industry (Moavenzadeh, 1978). According to him their major activities include the following:

- (1) "Ascertaining the needs and desires of the client
- (2) Developing a satisfactory design
- (3) Drawing up plans and specifications
- (4) Aiding in the selection of the contractor
- (5) Overseeing the project" (Moavenzadeh, 1978).

Moavenzadeh (1978) states that the professional group in developing countries is often the least advanced sector of the construction industry. This is why according to him developing nations thus tend to rely rather heavily on aid from developed countries in this area (Moavenzadeh, 1978). He also states that designs by expatriate professionals, however, are often poorly suited to locally available labour, materials, equipment, construction methods and technology (Moavenzadeh, 1978).

2.12.3.3 The Contractor Sector

According to Moavenzadeh (1978) the contractor sector is primarily a resource manager, where the resources include men, materials, equipment, money and time. He states that the prime responsibility of the contractor sector is the assembly operation and is made up of general contractors, speciality contractors (subcontractors), construction workers, and material and equipment manufacturers and suppliers (Moavenzadeh, 1978). The contractor sector according to him are responsible for the planning, coordination and supervision of the entire production process and for the completed facility's adherence to the projected plans and specifications (Moavenzadeh, 1978). Ofori (1980 & 1991) he states that most construction companies in the developing countries are sole ownerships, headed by entrepreneurs without expertise in construction, and having an interest in many other fields. From this he implies that the firms tend to be transient in developing countries (Ofori, 1991). Furthermore he states that they are unable or unwilling to employ qualified personnel and their proprietors are also reluctant to delegate responsibility to others, especially where this involves monetary transactions such as the purchasing of materials (Ofori, 1991). As a result he states that the potential for expansion of these firms in developing countries is quite limited (Ofori, 1991). Damachi (1978) states that due to the cultural background and the setting of operations, proprietors of contracting firms in the developing countries have a paternalistic and highly personal management style. Ofori (1991) states that in most of these countries goodwill is important in business relationships and winning contracts, obtaining materials, arranging for credit from banks and receiving interim payments from clients are rarely straightforward business transactions (Ofori, 1991). Rushbrooke (1979) states that the contractors in

developing countries needs to have the right contacts and be familiar with much more than the formal procedures to get business and be successful.

2.12.4 Public Procurement in Developing Countries

The following sections provide an overview of the literature regarding public procurement in developing countries and their associated major problems and issues are discussed in light of the literature.

2.12.4.1 Corruption in Public Procurement

According to Raymond (2008) corruption occurs because public sector officials do not get sufficient salary and benefits from the government and also states that a high degree of professionalism of the workforce is also missing in public sector in developing countries. According to Asian Development Bank (ADB) (2004) report in context of public sector in developing countries states that “corruption exists in all areas of government activity it is in the area of procurement activity that it is most rampant. Whilst tender boards are constituted at different levels – Department Ministerial and Cabinet – for the administration of tenders, the common perception amongst citizens is that high levels of corruption prevail in this area. The institutional arrangement for countering corruption in the form of the Commission to investigate allegations of Bribery or Corruption has not been successful. The pervasiveness of corruption affects public confidence in governance, adversely affects the effective delivery of services, impedes project implementation and escalates costs of program/project delivery”.

Interestingly Raymond (2008) suggests that some scholars such as Linarelli (1998) have argued that corruption facilitates trade and voluntary exchange, and have argued that bribes serve as lubricants in a sluggish economy and improves its efficiency. However, Raymond (2008) differs with these arguments and states that corruption is the greatest threat to economic progress and stability not just in the context of Sri Lanka (a developing country in South Asia) where her research is focused but also states that it holds ground for other developing countries as well. She further states that it is simply impossible for

any rational development to take place in government procurement or any area of the economy under corrupt procurement practices (Raymond, 2008).

2.12.4.2 Problems in Contract Management

According to Ogunlana and Sysavath (2000) construction work in many developing countries suffers from administrative and allocation inefficiencies. The reason they provided is it is because of a lack of sound framework of institutional and legal arrangements, especially those affecting public sector procurement and according to World Bank (1984) the construction industry in developing countries is not shaped to respond quickly and efficiently to the client's needs. Aniekwu and Okpala (1987) classified the range of problems encountered as either systemic (which according to them results from the application of systems not suitable to the environment) or structural (which they state to be resulting from the inherent conditions and practices within the environment). Aniekwu and Okpala (1987) suggest that the systemic components can be rectified by adjusting contract provisions but on the other hand, in their view, the structural components can be remedied only by adjustments in the whole societal posture since they are intrinsically tied to the structure of the environment (Ogunlana and Sysavath, 2000).

Ogunlana and Sysavath (2000) state the problems in trying to manage projects effectively and maximize project performance in developing countries which are according to them problems associated with misunderstanding of contract documents, especially general and special conditions which they state as having a tremendous impact on project performance. Cultural variations and differences in value systems present problems to foreign professionals working away from home (Enshassi, 1999). Tutesigensi and Moodley (1999) found that construction contracts affect harmony and levels of profit in the construction industry. Ogunlana and Sysavath (2000) further elaborates Tutesigensi and Moodley (1999) statements and state that the positive contribution of conditions of contract to harmony and profit in the construction industry can degenerate into a dysfunctional when either one or both of the following are exhibited i.e. lack of considerable understanding of the conditions of contract by at least one of the participants; and lack of trust and belief in the conditions of contracts by one or all of participants (Ogunlana and Sysavath, 2000). They also state that

many standard contract conditions used in developing countries are 'imported' as according to them they have originate from variety of sources and been designed for different social, cultural, political, legal and economic backgrounds (Ogunlana and Sysavath, 2000). Tutesigensi and Moodley (1999) state that in using 'imported' conditions of contract there are several parts of the jigsaw which are clearly missing and the end result is less than optimal achievement.

2.12.4.3 Trend in Adoption of Procurement Practices of Developed Countries

As stated in section 2.12.4.2 above that majority of the conditions used in contracting construction work in developing countries are not their own and are imported from developed countries. Moavenzadeh (1978) also states that what is practiced in developed countries is by and large adopted in developing countries (Moavenzadeh, 1978). This is an interesting fact as something similar has been noticed by Morledge et al. (2006) according to them the procurement approaches used in the UK would have been exported to the developing world as a by-product of nineteenth and early twentieth century colonial development. It can therefore be expected to "see clones of the British approach being used in many commonwealth countries ranging from parts of Africa (for example South Africa, Zimbabwe and Ghana), through the Far East (India, Sri Lanka, Hong Kong, Malaysia and Singapore) to Australasia and the western Areas around the Caribbean such as Trinidad, Tobago, Jamaica and Bermuda. It is also evident that similar processes would occur in other 'old world' countries and that the procurement processes that they would evolve might differ in many important respects from those developed in Britain". (Morledge et al., 2006)

Turin (1973) also stated that the contract documentation and procedures adopted on construction projects in developing countries are of foreign origin and are generally inappropriate. Aniekwu and Okpala (1988) states that the adoption of procedures and practices developed elsewhere (for use in different cultural, administrative and economic contexts) is another major contributory factor for weak performance of the construction industries in developing countries. Ofori (1991) state that the terms and conditions of the forms of contract are unrealistic and further illustrates this with an example that

sometimes in these documentations they may require the contractor to secure items like performance bonds which are not available in the country such in the case of east Africa (East African Institute of Architects, 1977). The International Labour Office (1983) suggested that contractors in developing countries seldom understood the provisions of contract forms. Aniekwu and Okpala (1988) states that small contractors in particular, are unaware of their rights or unable to enforce them in developing countries. Ofori (1991) reinforces Aniekwu and Okpala (1988) statement and state that because of lack of understanding and being unaware of their rights in developing countries projects are sometimes unilaterally suspended or abandoned by the client and contractors are seldom paid promptly for work done and the processing procedure for payment certificates is bureaucratic. Wells (1986) states that poor financial management on part of the clients' especially public sector clients often results in funds being not available to pay the contractors. Ofori (1991) states that it is the public sector clients whose procedures and practices pose the most problems to contractors in developing countries (Ofori, 1991).

2.12.4.4 Lack of Efficiency in Use of Finances and Procurement

In developing countries the major funding source for developmental, infrastructure and construction projects for the public sector in international funding. Raymond (2008) points out that allocated expenditure has to be spent wisely which is not the case in most of the public sector in developing countries. Arrowsmith and Davies (1998) demonstrate that inefficient or injudicious expenditure results in immediate hardship to the beneficiary and envisaged projects are either badly affected and this can also put the future readiness of international lending institutions to continue to providing financial assistance to developing countries in jeopardy. Efficient procurement according to Arrowsmith and Davies (1998) therefore, is a necessity and is encouraged and promoted by the International lending agencies such as the World Bank and the ADB.

2.12.5 External Environment

As also explained in section 2.9.4 above in detail, the external environment is a structure of several other systems such as finance, economics, politics, culture, regulatory, technology etc. According to McDermott and Rowlinson (1999) the

procurement selection process is an open system which receives information from its environment, transforms and returns as an output to the environment. From a research conducted in Sri Lanka (a developing country in South Asia) on external environmental factors influencing the procurement selection in construction Ratnasabapathy et al (2000) found that “a five-factor solution for the formulation of procurement selection criteria was derived. These five factor categories include “Market condition” (Factor 1); “Economic condition and the fiscal policy” (Factor 2); “Technology” (Factor 3); “Socio cultural suitability” (Factor 4) and “Regulatory environment” (Factor 5). Further, it was also found that Market conditions have significant influence on procurement selection compared to others factors. Except the factor 5, all other factors include related variables which reflect the influence of various aspects of the external environment. Therefore, it can be concluded that beside the commonly considered factors in terms of key selection criteria like client’s requirements and project profile, clients should take into account other factors from the operating external environment that influence procurement selection” Ratnasabapathy et al (2000).

2.12.5.1 Finance

Moavenzadeh (1978) states that the detail of the financing processes vary and depend upon the type, size, and location of the construction project, the participants, economic conditions etc. He states that in the case of public construction, financing is generally by means of municipal or federal bonds, current revenues, or federal aid (Moavenzadeh, 1978). He also states that in developed countries financing is usually through domestic sources, while in the developing countries both domestic and foreign funds are used (Moavenzadeh, 1978). According to Moavenzadeh (1978) the gross domestic savings in developing countries are not generally sufficient to finance the limited amount of gross domestic capital formation, and thus some foreign funds are also generally necessary. He also states that foreign sources of finance are important in terms of supplementing the available foreign exchange reserves and thus increasing the import capacity of developing countries (Moavenzadeh, 1978). According to Moavenzadeh (1978) the domestic resources available for capital formation, in particular in the form of constructed facilities can come only from national savings which is comprised of household, corporate and government savings. According to a United Nations report (1966) the

mobilization of national savings in the direction of capital formation depends upon a variety of factors which includes the following:

1. "Attitude of people toward immediate versus future consumption
2. Availability of appropriate institutional arrangements and knowledge about them
3. Activities of central banks, in particular in forming the monetary policy
4. Willingness of corporations to plough-back profits or invest otherwise so as to increase capital formation
5. Fiscal and taxation policy" (UN, 1966).

Moavenzadeh (1978) states that in developing countries the government is responsible for providing the general infrastructure and institutional facilities, the domestic financing for which are usually through public savings. He also identifies the sources of these savings which includes the following:

"(1) budget surpluses which may be derived from tax revenue and other receipts; (2) government domestic borrowing from the capital market through treasury bills and government bonds; and (3) profits generated by government enterprises" (Moavenzadeh, 1978).

Quartey (1996) state that project is financed in developing countries in two ways, firstly through domestic savings and secondly through foreign assistance which includes grants, aid and loans. Quartey (1996) also states that both these methods have their limitations such as domestic savings are not always achievable or adequate, usually because of the shortfalls in revenues and escalating expenditures. Foreign lending therefore plays a prominent role in financing development projects (Quartey, 1996). As far as foreign lending is concerned Quartey (1996) states that donors can seldom cater for all the development needs of the recipient countries and therefore development is quite often not at an optimum rate. Projects have to be phased and sometimes packaged impractically both in terms of size and technical interfacing (Quartey, 1996). He also states that in addition to obtaining foreign funding there is a need to provide sovereign guarantees (Quartey, 1996). According to White (1976) the machinery for mobilizing project finance in most developing countries

is geared primarily to the requirements of international development finance institutions and bilateral aid agencies.

2.12.5.2 Foreign Aid

From the discussion in the chapter it is quite evident that foreign aid and foreign financial assistance has an instrumental role in infrastructure procurement in developing countries. Therefore the need to study and investigate literature regarding foreign aid/assistance in context of construction procurement is warranted and is discussed below (this is largely adapted from Khan (2003)).

2.12.5.2.1 Background

According to Khan (2003) foreign aid is provided in two different ways, bilateral and multilateral. He also provides description of Bilateral and multilateral aid, according to Khan (2003) bilateral aid is given to the recipient government by the donor country's own organisations responsible for international assistance such as the United States Agency for International Development (USAID), the Australian Agency for International Development (AusAid) or the Overseas Economic Cooperation Fund of Japan (OEFC) (Khan, 2003). Multilateral aid according to Khan (2003) is given to the recipient government by international development agencies such as United Nations organisations, the World Bank or regional development agencies such as the Asian Development Bank and other similar organisations (Khan, 2003). He also states that the main sources of funds for these agencies are the contributions from the developed countries and further states that each donor country's total aid is composed of a combination of both bilateral and multilateral aid (Khan, 2003). According to Ariff (1998) and Khan (2003) in addition to around 5,000 non-government organisations (NGO's) mainly from developed countries also provide aid.

2.12.5.2.2 Procurement in Foreign Aid Projects

According to Khan (2003) until the year 2000 around 56 percent of total aid money disbursed by the World Bank went to overseas suppliers. Of the total disbursement to these suppliers, more than 75 percent was paid to

suppliers hailing from developed country (World Bank, 2001). This according to Khan (2003) is despite the fact that these procurements were open to all members of the World Bank/United Nations (Khan, 2003). Khan (2003) also states that procurement against most of the foreign aid-assisted developmental and technical cooperation projects are carried out by the executing agencies of the Government in developing countries. Khan (2003) defines executing agency of the government as the statutory body or department of the respective recipient government under whom the project will be executed in developing countries. He also states that in case of emergency aid such as disaster assistance and peacekeeping operations, as well as for their own organisational activities the funding organisations carry out the procurement activities by themselves (Khan, 2003). In case of NGO's Khan (2003) states that the NGOs are directly engaged in the recipient countries at field level and usually execute aid projects by themselves, with little or no involvement of either the donor/ funding or recipient governments.

Khan (2003) further goes on to say that each project can involve many separate contracts and business opportunities for suppliers, contractors, and consultants worldwide. He states that the executing agency plays the role of "official purchaser or procurer" for the project (Khan, 2003). However he also states that the donor/ funding agencies oversee the procurement process to ensure that the proceeds of any loan are used only for the purposes for which the loan was granted, according to Asian Development Bank (1999) and World Bank (2001) the aim of the funding / donor organisation for overseeing procurement process is to give due attention to considerations of economy and efficiency, and without regard to political or other non-economic influences or considerations. Khan (2003) states for this purpose the major donor/ funding agencies such as the World Bank, the Asian Development Bank, the Japan Bank for International Cooperation (JBIC) and USAID insist that the executing agency of the recipient government to follow the procurement guidelines of the donors/ funding organisations (Khan, 2003). Furthermore for this purpose he states that these organisations have their own monitoring systems to oversee and to

ensure that their guidelines are properly followed by the executing agencies (Khan, 2003).

Khan (2003) states that in case of public sector in developing countries the principal mechanism for allocating resources and controlling activity is the contract between purchaser and provider and the government agencies can select providers in one of three ways; open tendering, select list tendering, and direct negotiation with suppliers (Mannion and Smith, 1997). Khan (2003) and Luqmani et al. (1988) states that complexity is added to the equation as government organisations in most developing countries are not allowed to buy without going through the set rules and procedures with a number of screening stages. Khan (2003) citing Mannion and Smith (1997) further states that the macro and micro environmental factors pertaining to a particular purchaser adds further complexity and along with the criteria set by the respective and often multiple donor's procurement guidelines (World Bank, 2001). In such a case Jayaraman et al (1999) state that multiple sourcing is generally followed which not only ensures availability of products but also to keeps the price and quality competitive.

2.12.5.2.3 Procurement methods

Khan (2003) states that in case of foreign funded projects in most of the cases procurement is carried out by using the international competitive bidding process (ICB) with a margin of preference given to domestic goods and services in developing countries. He further states that depending on the situation that dictates that ICB is not the most appropriate method of procurement than alternative methods are also used (Khan, 2003). He further identifies these methods citing World Bank (2002) according to him these methods includes limited international bidding (LIB), national competitive bidding (NCB), international and local shopping, direct contracting and force account. Khan (2003) also states that for contracts regarding construction major civil works, and for large complex infrastructure projects, and in some cases for suppliers of specialised equipment, pre-qualification of bidders is often required. He further states that the pre-qualification is designed to ensure that invitations to bid are extended only to companies capable of undertaking the work (*ibid*). Khan

(2003) citing International Trade Center UNCTAD/WTO (1999) states that for the purpose of pre-qualification of bidders the executing agencies requires to ascertain “(a) experience and past performance on similar contracts, (b) capabilities with respect to personnel, equipment, and construction or manufacturing facilities, and (c) financial position” (International Trade Center UNCTAD/WTO, 1999). He also states that the pre-qualified bidders are then eligible for submission of bids against the contracts under foreign funded projects (Khan, 2003). According to Khan (2003) ICB, as practiced in foreign-funded projects, is similar to the public bidding procedures used by many governments in developing countries. Furthermore he states that in the funding organisations’ procurement guidelines the ICB procedures are usually described in detail with some adjustment with respect to the specific project’s nature or country need and the terms are then incorporated into the loan agreements (Khan, 2003). He also states that the procurement guidelines against ICB of various aid agencies have almost identical features and requirements (Khan, 2003). He also mentions that under these guidelines the awarding of contracts is done on the basis of an evaluated price and not necessarily the lowest price as is the case in most public procurements in developing countries and he states that the evaluated price can take into account a number of factors such as “quality, durability, availability of after sales service and spare parts, training and maintenance and operating costs” (World Bank, 2002).

Interesting observation has been made by Khan (2003) according to him to be eligible for procurement in aid-assisted projects both supplies (goods, works or services) and the suppliers have to be originated from countries permitted by each of the donors involved in the project. He then gives an example where projects are partially or wholly financed by the World Bank, funds “are disbursed only on account of expenditures for goods and works provided by nationals of, and produced in or supplied from, Bank member countries” (International Trade Center UNCTAD/WTO, 1999). Khan (2003) also contrasts this approach by the World Bank to that of the European Bank for Reconstruction and Development (EBRD) which permits firms and individuals from all countries to offer goods, works and services, regardless of their membership to the bank (International Trade Center UNCTAD/WTO,

1999). Furthermore Khan (2003) states that the same applies for the United Nations' funded projects, unless the UN General Assembly or Security Council decides otherwise. He further says that for projects with tied aid, partial or whole, the suppliers, as well as goods and services, are to be sourced from donor-nominated countries (International Trade Center UNCTAD/WTO, 1999, p. 7). All supplies offered to the aid-funded projects also have to qualify in terms of minimum technical suitability and quality (Khan, 2003). Luqmani et al. (1988) argues that in order successfully to market to developing country's governments, sellers need to understand "a series of successive hurdles or screens which may be affected by two types of overlapping factors: intrinsic and extrinsic. Intrinsic influences are dominated by local factors unique to the region. Extrinsic influences originate from international practices, procedures and processes" (Luqmani et al., 1988). According to Khan (2003) "the hurdles identified by Luqmani et al. (1988) are summarised as follows:

- (1) Eligibility screen: for submission of a bid bidders may be required to pay a high non-refundable fee and/or submit financial guarantee to confirm commitment to their offer and so on.
- (2) Procedural screen: may include numerous prescribed forms to be completed and submitted in a prescribed bureaucratic manner. International firms may also need to use "lubrication payment": small sums of cash, gift, or service made to low-ranking officials in countries where these are not prohibited by law. The sellers also need to be aware of unwritten rules or informal machineries that relate to government decision-making processes.
- (3) Linkage screen: may depend on the state-of-the art technology that exists in a particular developing country.
- (4) Competitive screen: may include the method of financing, pricing, reputation of firm and experience in similar markets.
- (5) Influence screen: may include contractual, individual or group, local firm influences and outside consultant influences" (Khan, 2003).

2.12.5.3 Culture

Importance of culture and its impact on procurement and project management has been discussed in detail in section 2.9.4.2 and its subsequent sub sections above. The following paragraphs give an account of culture and the research and literature on culture in context of developing countries. According to Ofori (2000) the project procurement and administrative arrangements currently in use in developing countries have been inherited from Western countries which have a different history, culture, collective experience and breadth of construction expertise. He also states that these arrangements determine the documentation, procedures and practices in the industry, and specify the roles of the participants and the relationships among them, and hence the networks of power and authority (Ofori, 2000). Furthermore Ofori (2000) states that these arrangement stress formality and the following of set channels of communication. Ironically according to Ofori (200) the countries of origin of these procurement arrangements have changed their approaches. He gives the example of the UK stating that after a comprehensive review of the UK construction industry Latham (1994) advocated the building of trust and a spirit of partnering in an industry characterised by mistrust, rivalries and adversarialism (Ofori, 2000). Moreover, the “traditional” procurement approach, which is still predominant in the in the Commonwealth countries, is now only one of many possible ones in the developed countries (Ofori, 2000). Rwelamila et al (2000) suggests that even in the case of UK the influences on the UK construction have come from other industrialised countries mainly the US. Rwelamila et al (2000) also showed that the failure to consider and incorporate cultural traits in the procurement systems of construction project adopted in Southern Africa is a major contributor to the generally poor performance on projects. Ofori (2000) states that similar studies as that of Rwelamila et al (2000) in other countries might reach similar conclusions. As Hostede (1980) states culture has become an important area of study in business organisations. While Handy (1985) found that every organisation has a culture which is determined by its history, size, corporate goals and objectives, technology of production, market, and operating environment. According to Barthorpe et al (1999) in construction where “several organisations temporarily interact on each project, cultural issues are constantly to the fore” (Barthorpe et al., 1999). According to Ofori (2000) who suggests that in such a state the ability to

manage cultural issues in projects is a determinant of project and corporate success.

Ofori (2000) reflecting on the state of research on culture in construction states that the studies relating to culture have concerned:

- The impact of the nation's culture on construction activity (Rwelamila et al, 2000)
- The culture of the construction project (Rowlinson and Root, 1997)
- The culture of the construction firm (Liu and Fellows, 1999)
- The culture of the construction site (Applebaum, 1991).

Furthermore Ofori (2000) who states that "given the uniqueness of culture to particular groups of people, and its pervasive influence in societies and organisations, these studies confirm that the construction industry must differ in every country. Thus, it is necessary for effort to be made to devise practices, procedures and relationships which are suited to the culture of each country: universal solutions are not practical. In particular, effort should be made to formulate procurement approaches which enable and facilitate the integration of the construction process in the context of the country concerned" (Ofori, 2000).

2.12.5.4 Economic

According to Riley and Lewis (2008) most of the developing countries had and still have economies structured almost entirely around the export of raw materials and unprocessed agricultural produce and according to them there is very little 'active' capital. They further state that in order to find the money needed to develop the infrastructure governments in developing countries had to approach the International Funding Institutions (IFIs) (Riley and Lewis, 2008). According to Ofori (1991) citing Colean and Newcomb (1952) states that the fluctuations in the total workload of the construction industry in developing countries, as well as that of individual firms in these countries and the variations in construction output have been observed as being more pronounced in extent and effect, than those in the levels of production in other sectors of the economy. Briscoe (1988) states that the public sector is the largest client of construction goods and services in developing countries because the

commercial development sector is weak and its investment in construction is cyclic and varied to suit prevailing requirements in the management of the economy. According to Ofori (1984 and 1991) since the early 1980s many developing countries have adopted structural adjustment programmes for their national economies, and curtailed government expenditure and hence have caused their construction industries to experience long periods of low activity.

Miller (2000) regarding construction in developing economies notes that the key issue is that “infrastructure development and economic development can not be separated for analytical purposes. They are as inseparable as opposite sides of the same coin” (Miller, 2000). According to Riley and Lewis (2008) economic development includes the growth of gross domestic product (GDP) but also includes a whole range of social improvements as well. They further state that infrastructure development includes the provision of facilities to meet human needs, such as for the movement of people, goods, and information; in addition to the provision of water, sanitation, and shelter (Riley and Lewis, 2008). Furthermore according to them the development of infrastructure facilities is symbiotically linked to economic development (Riley and Lewis, 2008). They also state that “the way the economic system develops will determine how infrastructure development takes place, just as the infrastructure itself limits or promotes the economic development it is dependent on – they are as interdependent as the chicken and the egg”. (Riley and Lewis, 2008)

Riley and Lewis (2008) further give examples of recent economic development in countries such as Singapore, South Korea, China, Malaysia, and India and states that there are all countries that focused attention on developing their physical infrastructure. He further elaborates that at the same time as focusing on developing physical infrastructure these countries have recognised the importance of modern institutions in enabling progress and they built and developed their existing institutions accordingly (Riley and Lewis, 2008). According to World Economic Forum (2007); Francois and Manchin (2007) and Riley and Lewis (2008) the lesson to be taken from this experience is that developing economies must focus not only on infrastructural improvement but also on the provision of appropriate institutions and organisations, especially in the construction sector.

2.12.5.5 Political

As discussed in the literature beforehand politics and political forces can influence the procurement practice and process. Raymond (2008) gives examples from case study she had conducted in Sri Lanka but it can be applied in general context to other developing countries in the region according to her in developing countries more control is placed in the hands of the bureaucracy. She further states that according to Arrowsmith and Davies (1998) the Ministers and Government Departments are responsible for meeting the requirements of the government and are given more power to deal with the finances though they usually remain closely controlled by a central audit unit operated by the Ministry of Finance and Auditors Office (Raymond, 2008). She further states that often politicians misuse this power, bringing about disastrous consequences for the country. Like in most developing countries, Raymond (2008) states that the government of Sri-Lanka had no continuity in a national strategy unlike developed countries. Raymond (2008) also states that when a new political party is elected to power in developing countries the national policy of the country changes while not considering the long term interests of the country. Furthermore she states that the newly elected political party in power elects new ministers and these ministers then change all the heads of Departments and Government agencies under their authority (Raymond, 2008). Raymond (2008) also states that usually the Minister's family, close friends and party supporters are appointed as heads of these Departments. Giving example of Sri-Lanka she states that many of these appointees do not have the necessary experience and qualifications to undertake these important positions (Raymond, 2008) the same can also be said about most of the developing countries. Furthermore she states that when these heads of Departments come into power they introduce new visions and missions, change strategies and ongoing projects with maximum publicity to further their own interests (Raymond, 2008). Therefore she infers that it can be very difficult to separate the daily business working of the government from the political influence of its elected leaders in developing countries (Raymond, 2008). Raymond (2008) also states that 'with the change of each "Government or Political Party, a fresh installment of bribes are needed" (Raymond, 2008).

According to Riley and Lewis (2008) “in the context of construction procurement, the assumptions or principles held by agents in the decision making process bring uncertainty to the process because:

- Choice is made by decision makers, who are not necessarily local or even within the country, based on their individual ‘mental maps’, which are in part historically and culturally determined.
- The knowledge and analytical power of the decision makers are necessarily limited.
- Information is asymmetrically held among the different players involved.
- A society’s development path is powerfully conditioned by its past” (Riley and Lewis, 2008).

They go on further and say that for “these reasons decision makers use as a reference the institutions that have evolved, essentially, to reduce the uncertainty in human exchanges. Since uncertainty results in large part from imperfect information, the institutions in a society are those that reflect the quality of the information that is available. The greater the uncertainty, the more rigid and limiting the institutional arrangements tend to be, and in the context of construction, the more difficult it becomes to adopt a new and different procurement process that minimizes transactional and enforcement costs. The smaller the uncertainty facing the decision maker, the more flexible the institutional arrangements, and the greater the scope for initiative. Hence, developing countries tend to limit the scope for initiative in public sector contract letting (almost always to the lowest competitive bid) whereas more developed countries experiment with various of the newer formats that even allow negotiation (PPP, PFI, BOOT, BOLT etc)” (Riley and Lewis, 2008).

2.12.5.6 Technology

Authors such as Nader and Zahlan (1969); McGinn (1991) and Ofori (1994) among others consider it quite important for developing countries to acquire capabilities in key technologies in order to ensure their socio-economic progress. According to Ofori (1994) the Economic and Social Commission for

Asia and the Pacific (ESCAP) (1993) observed that the ability to keep up with rapid technological change is decisive in industrial and trade competitiveness. Furthermore they suggest that developing countries with their inherent technological lag and shortage of resources, research facilities and trained personnel, would find it difficult to cope with technological change (Ofori, 1994). Many writers stress the need to raise the level of technological development of the construction industries of developing countries (Ofori, 1994). Ofori (1994) citing the United Nations Centre for Human Settlements (UNCHS 1993) states that this organisation reviews the building materials situation in developing countries and the picture painted by the is grim furthermore he states that in developing countries there is general failure to develop 'conventional' technologies; declining levels of local production in the face of rising demand leading to increases in imports; increasing prices; low construction productivity; project delays; and an adverse overall policy environment (Ofori, 1994). According to Ofori (1994) other writers such as Kirmani & Baum (1992); Schilderman (1992), Ofori (1993); Syagga (1993) and Wells (1993) cite similar indications regarding the lack of success in efforts in construction technology development in developing countries (Ofori, 1994). Ofori (1994) observes that authors and researchers generally consider the difficulties relating to construction technology as soluble. He gives the example of Syagga (1993) whom according to him makes many suggestions for Kenya, observing that with suitable specifications housing construction costs could be reduced by half (Ofori, 1994). According to Ofori (1990 and 1994) and UNCHS (1990 and 1993) the main prerequisite for the generation of adequate technological capability in construction in developing countries is 'government commitment and support'.

2.12.5.7 Construction Industry's Regulatory Environment

According to Moavenzadeh (1978) the regulatory environment within which the construction industry operates in developed countries is extensive and includes building and related codes, zoning ordinances, sub-division regulations, planning laws, licensing requirements, environmental regulations, safety legislation, monetary and fiscal policies, tax laws, financial institution operating rules, and wage regulations. He further says that similar regulations are emerging in developing countries and need to be expanded, but this according to him must be done with regard to the local conditions of the particular country,

and regulations must not simply be transferred intact from the developed countries which have often occurred in the past as per his observations (Moavenzadeh, 1978). He further elaborates that during the 70's in the developed countries the regulations concentrated on setting the materials and methods to be used rather than the desired performance characteristics, thus stifling innovations and adding to construction costs (Moavenzadeh, 1978). Efforts in those days i.e. 70's and 80's were being made to change those codes and regulations to more performance based codes (Moavenzadeh, 1978) which has been changed to performance based but ironically as he observed in 70s many developing countries had already adopted materials and methods codes that did not incorporate performance (Moavenzadeh, 1978).

2.12.5.8 Responsibility, Liability and Insurance

According to Moavenzadeh (1978) the complex topics in construction were the responsibility, liability and insurance. According to him construction projects generally have several contractual arrangements in effect at any point in time which together establish a complicated structure of responsibilities for damages arising out of construction operations and according to him for this reason all participants need insurance (Moavenzadeh, 1978). He further contrasts the case of the developing countries stating that insurance was still a somewhat new idea and like financing and bonding was difficult for the contractors who were new or inexperienced or who lacked assets (Moavenzadeh, 1978). He suggests that in developing countries the government might help by developing some facilities for providing insurance or by accepting some of the contractor's responsibilities itself when it is the client and encouraging other clients to do the same (Moavenzadeh, 1978). He concludes his suggestions by stating that development and implementation of new insurance arrangements such as the wrap-up insurance programmes which cover all participants (owner, architect, engineer, general contractor and sub-contractors) is according to him another possibility (Moavenzaden, 1978).

2.12.6 Major Problems in Private Sector Participation in Infrastructure Projects in Developing Countries

According to Gupta and Sravat (1998) and McCowan and Mohamed (2000) in many developing countries, rapid economic growth is outstripping infrastructure supply. McCowan and Mohamed (2000) also state that governments in developing countries are unable to fund vital infrastructure development and rehabilitation, so they are increasingly turning to large international firms as a source of funding through concession contracts such as Build-Own-Transfer (BOT) (McCowan and Mohamed, 2000). The reason for this is given by McCowan and Mohamed (2000) that these large international firms generally have a greater credit standing and capacity to finance the large scale projects. Furthermore they state that if procured properly the BOT option in developing countries presents a win-win-win solution for governments, private sector firms and the community at large (McCowan and Mohamed, 2000). They also provide the perspectives regarding BOT from government and private sector as well as the community at large. According to them they state that from the government's perspective, private sector participation offers off balance-sheet funding whilst bringing an added advantage of cost and resource efficiency to the project and from the private sector's perspective, BOT projects present great opportunities to expand market share and earn higher returns (McCowan and Mohamed, 2000). From the perspective of the community at large they state that due to a user pays system, the community at large does not experience taxation increases (McCowan and Mohamed, 2000). Han and Diekmann (2001) states that globalisation has created greater opportunities for construction companies to expand their market share abroad and earn higher returns, McCowan and Mohamed (2000) states that international projects are generally more profitable than domestic projects. They further state that public private partnership projects and in particular BOT projects are by nature long-term investments involving complex organisational structures (McCowa and Mohamed, 2000). Furthermore they state that there is a high possibility that during the life of such projects the legislative, political, social, market and economic environment can change significantly particularly in developing countries, where according to them the social, political and economic conditions are unstable (McCowa and Mohamed, 2000). They conclude that in there is a high degree of risk and uncertainty surrounding public private partnership projects especially BOT investment opportunities in these countries and according to them it is critical that adequate identification, assessment, and evaluation of non-financial (risk) factors take place at the feasibility stage if not there is a high probability of incurring financial losses

(McCowa and Mohamed, 2000). Authors such as Dailami et al (1999); Ho and Liu (2002); Zhi (1995); Gupta and Sravat (1998); Ozdoganm and Birgonul (2000); Baloi and Price (2002) and Kumaraswamy and Morris (2002) state that such losses are mainly be attributed to the difficulties experienced in assessing and evaluating the impact of non-financial risk factors and more specifically in PPP especially BOT projects in developing countries.

2.12.7 Globalisation

According to Ofori (2000) globalisation in case of construction industries of developing countries is 'an inescapable fact'. According to Drewer (1980) and Ofori (2000) globalisation can not be avoided in developing countries because many of the construction and infrastructure projects which they require and need for their socio-economic development are huge, novel and complex and they are beyond the capabilities of their respective construction industries to undertake. Therefore as Ofori (2000) suggests the developing countries must import some construction activities. Globalisation has its own advantages and disadvantages the table No. 2.8 below shows the merits and demerits of globalisation to the construction industries of developing countries as presented by Ofori (2000)

Table 2. 8: Advantages and Disadvantages of Globalisation Considering Construction Industries in Developing Countries (Ofori, 2000)

Advantages	Disadvantages
Involvement of international finance makes possible the implementation of several projects, such as those of major infrastructure. (Ofori, 2000)	Local construction firms have no funds or expertise to participate in the sponsorship of privatised projects. (Ofori, 2000)
Direct foreign investment in projects leads to increase in construction demand, creating work opportunities for local firms. (Ofori, 2000)	Local construction companies lack the technical and managerial capability to undertake most of the foreign-funded projects. (Ofori, 2000)
Competition among foreign firms lowers the costs of projects to developing countries. (Ofori, 2000)	It is possible that local firms will be deprived of the opportunity to grow (Hillebrandt, 1999).

<p>Presence of large numbers of international firms offers scope for technology transfer and the development of local firms and upgrading of the industry. The large number of such firms also means that technology transfer can be a tool for competition. (Ofori, 2000)</p>	<p>Foreign construction firms may pay lip service to technology transfer (Carillo, 1994) or take measures to avoid it. Moreover, local companies may not be in a position to benefit from technology transfer, or to subsequently utilise the acquired expertise. (Ofori, 2000)</p>
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2.13 Outcomes of Literature Review

Conducting a detailed literature review has yielded in the following outcomes:

2.13.1 Identification of Gaps in Knowledge

It has been observed in the literature and research that the established procurement processes in developing countries hinder project success (Frimpong et al., 2003). Further research is required in developing countries at the level of individual construction related subjects such as procurement (Ofori, 1993). As Ofori (1993) suggests it is the failure of the research undertaken so far to advance the field of knowledge which he states to be a contributory factor for poor performance of construction industry in developing countries. Many important issues that have been addressed in the literature investigated regarding developed countries have seldom been addressed in the context of developing countries and there are huge gaps and voids to be filled. For example the affect of the external and internal environment can have on procurement practices in a developing country. As procurement and construction itself is an open system and not immune to the effects the operating environment as stated by many authors hence factors such as the culture of the country, business culture, business practices, the political and the economic impacts, the characteristics of the clients, needs of the clients, the construction industry itself and how they all affect procurement needs to be investigated. Also it warrants further research on how enabled is the environment in developing countries to assimilate new and innovative procurement practices that have stemmed up in the developed countries.

During this literature review it has been found that the developing countries have a trend in adopting methods that have come into being in developed countries without considering its origin and how these methods have evolved. “What is practiced in developed countries is by and large adopted in developing countries” (Moavenzadeh, 1978). The project procurement and administrative arrangements currently in use in developing countries have been inherited from developed Western countries which have a different history, culture, collective experience and breadth of construction expertise (Ofori, 2000). According to Taylor et al (1999) “the transactions and activities of human kind have long been modelled on the experiences of the developed world. It has historically been assumed that norms and systems arising from a particular set of experiences in the developed world can be readily adopted by developing countries. They further state that developing countries frequently confirmed the unsuitability of “normative or procedural models whose evolutionary context is not their own” which may be sound in principle but which are founded on inappropriate paradigms (Taylor et al., 1999). They further add that “uniqueness derives from national capacity to respond and the context within which that response occurs” (Taylor et al., 1999). The developing countries should develop and apply appropriate procurement systems which suit their culture and business traditions (Ofori, 2006). Rwelamila et al (1999) showed that the failure to consider and incorporate cultural traits in the procurement systems of construction project is a major contributor to the generally poor performance of projects in developing countries. There is a need to learn to do things differently, to rethink the process through which construction industries deliver their projects with the aim of achieving continuous improvement in their performance and products (Rwelamila et al., 2000). They further suggest that to achieve the dramatic increases in efficiency and quality that are both possible and necessary there is a need to start questioning current and emerging procurement approaches (*ibid*). They state that it is of paramount importance that there is a need to accept the reality that developing countries construction industries problems need their own solutions and these solutions should be appropriate to their construction environment (*ibid*). There is a need to find local solutions to procurement problems of developing countries and which can only be achieved with country specific research. Toor and Ogunlana (2008) suggest that more studies should be conducted in other countries to account for the nature and

structure of the local construction industry, scale of construction projects, procurement strategies, maturity of the concerned organisations and local cultural values and norms. Also, ever changing socio-economic and cultural changes have been growingly perplexing and the globalization of the construction industry has posed numerous challenges to the concerned players at all levels (Raftery et al., 1998; Lewis, 2006 and Ofori, 2007). The circumstances of the developing countries should be taken into consideration by researchers (Ofori, 1993). Ofori (1993) also notes a lack of progress in the field of construction research in developing countries. He states that there are indications that the field of study has failed to develop (Ofori, 1993).

There is a need to gather data and conduct studies to gain a better understanding of what actually happens in the construction industry in general and project procurement in particular in developing countries. It has also been observed that literature pertaining to developing countries is limited and some of it is 30-40 years old things might have changed over such a long period of time which needs to be explored. The literature investigated also does not address as to the suitability of different procurement methods to cater the needs to country specific issues of developing countries. The researcher has been unable to find academic literature that investigates country specific issues of construction procurement practice in the context of developing countries and especially Pakistan. The above discussion warrants this researcher's rationale and questions that needs further investigation.

2.13.2 Conceptual Framework

According to Baxter and Jack (2008) who states that both Stake (1995) and Yin (2003) refer to conceptual frameworks, but fail to fully describe them or provide a model of a conceptual framework for reference (Baxter and Jack, 2008). One resource that provides examples of conceptual frameworks is Miles and Huberman (1994). These authors note that the conceptual framework serves several purposes which according to them are (a) identifying who will and will not be included in the study; (b) describing what relationships may be present based on logic, theory and/or experience; and (c) providing the researcher with the opportunity to gather general constructs into intellectual "bins" (Miles & Huberman,

1994). The conceptual framework serves as an anchor for the study and is referred at the stage of data interpretation (Baxter and Jack, 2008).

The following is a diagrammatic description of the conceptual framework that has resulted as an outcome of the literature review process. The framework was based on the literature and the researcher's personal experiences. The major constructs are proposed in the following manner in Figure 2.9 below:

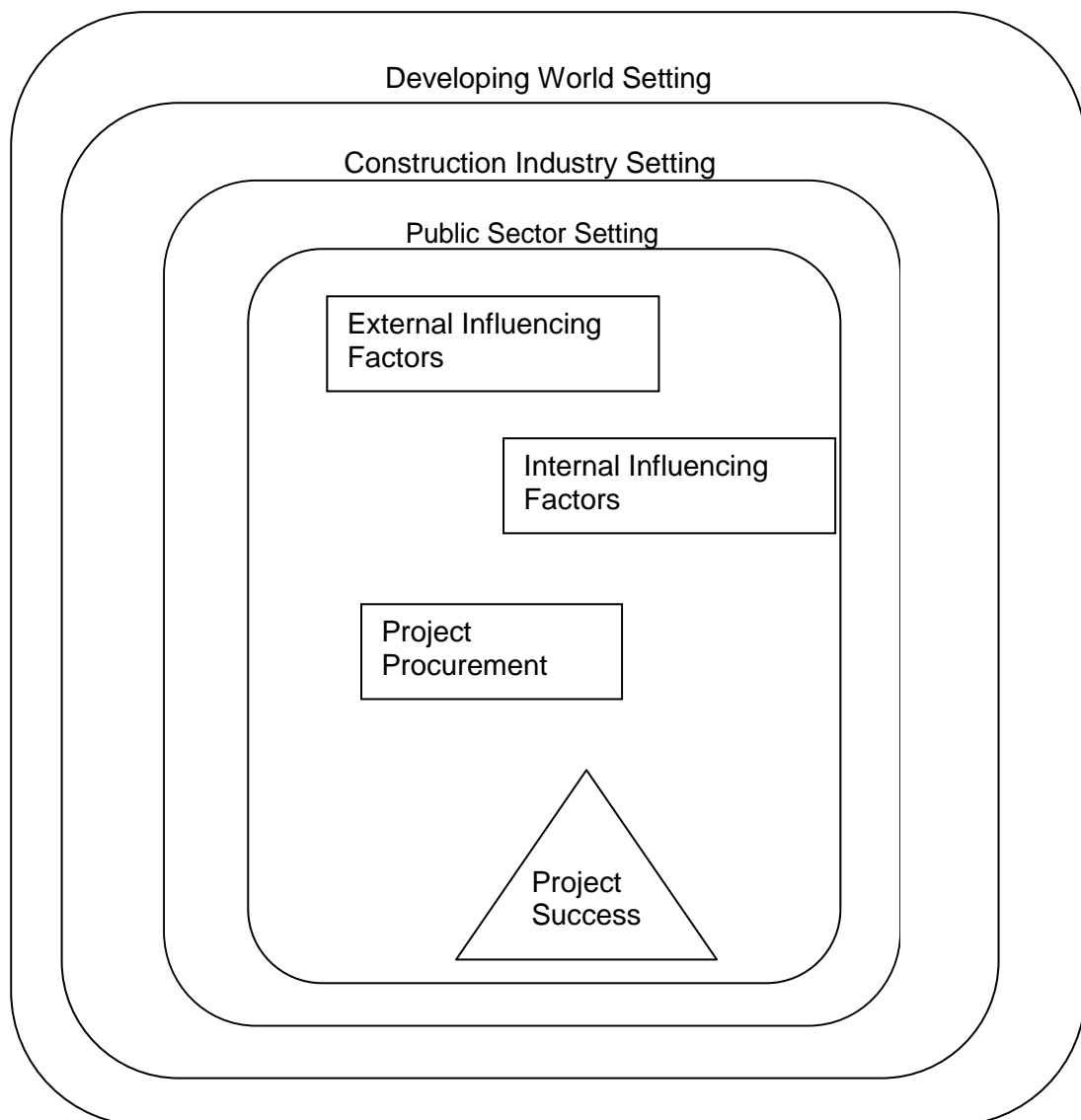


Figure 2. 9: Conceptual Framework for this Research

It can be noted that the framework provided above does not display relationships between the constructs. According to Baxter and Jack (2008) the framework should continue to develop and be completed as the study progresses and the relationships between the proposed constructs will emerge as data are analysed.

A final conceptual framework will include all the themes that emerged from data analysis. Yin (2003) suggests that returning to the propositions that initially formed the conceptual framework ensures that the analysis is reasonable in scope and that it also provides structure for the final report (Baxter and Jack, 2008). One of the drawbacks of a conceptual framework is that it may limit the inductive approach when exploring a phenomenon (Baxter and Jack, 2008).

2.13.3 Literature Review Summary Sheet

The literature review undertaken has not only resulted in identification of gaps in knowledge and the conceptual framework but has also paved the way for a critical look towards this research. It is vital to evaluate this work, show the relationships between major issues identified during the literature review and show how it relates to the work that is being undertaken in this doctoral thesis. The following table below shows a brief summary of the literature review undertaken by identifying the major issues and linking it to research and interview questions. This has been a pain staking exercise but it of paramount importance to demonstrate clear links between this literature review chapter and the main research and interview questions.

Table 2. 9: Linking Literature Review to Research and Interview Questions

Serial No.	Major Issues	Major Authors and Institutions	Related Main Research Questions	Related Interview Questions
1.	Principles of Procurement		Q2	QB 2 & QC 1
	Value and Value for Money (VFM)	(Raymond, 2008), (HM Treasury, 2003), (Pitt et al. 2006), (Bauld and McGuinness, 2006), (Cummings and Qiao, 2003), (Palmer and Butt, 1985), (Murray and Langford, 2009), (Kashiwagi 1997), (Walker and Rowlinson, 2008), (Hughes et al, 2006), (Akintoye, 2000) (McIntosh et	Q2	QB 2 & QC 1

		al. 2000) and (Vrijhoef and Koskela 2000)		
	Ethics	(Raymond, 2008), (De George ,1990), (Walker et al., 2008), (Preston, 1996), (Atkinson, 2003), (Tandoor and Koehn, 2004), (OECD), (Arrowsmith, 2003),	Q2	QB 2 & QC 1
	Competition	(Raymond, 2008), (Hughes et al, 2006), (Erridge et al.,1999), (Oyegoke, 2009), (Eccles 1981), (Luqmani et al., 1988) and (Jayaraman et al., 1999).	Q2	QB 2 & QC 1
	Transparency	(Raymond, 2008), (Rege, 2001), (Transparency International), (Tandoor and Koehn, 2004), (OECD), (Arrowsmith, 2003),(Arrowsmith and Davies, 1998), (World Bank and Asian Development Bank)	Q2	QB 2 & QC 1
	Accountability	(Raymond, 2008), (Barrett, 2000), (Hughes, 2003), (Gunasekaran, 2005), (Transparency International), (OECD), (World Bank and Asian Development Bank)	Q2	QB 2 & QC 1
2.	Importance of Procurement Selection Process	(Bowen et al, 1999), (Walker & Rowlinson, 2008), (Tookey et al., 2001), (Masterman, 1992), (Luu et al 2003), (Naoum, 1994) , (Sharif and Morledge, 1994), (Rwelamila and Meyer, 1999), (Ambrose and Tucker, 1999), (Turner, 1990), (Skitmore & Marsden, 1988), (Ball, 1988), (Franks, 1990), (Hillebrandt and Cannon 1990), (Nahapiet & Nahapiet 1985), (NEDO 1985), (Bennett & Grice 1992).	Q3	QB 2, QB 4, QC 1, & QC 3
3.	Different	(Hughes et al, 2006), (Murray and Langford, 2009), (Morledge et al,	Q1	QC 1 & QC 4

	Procurement Choices /Systems	2006), (Francis and Sidwell 1996), (McGeorge and Palmer 1997), (Walker and Hampson, 2003), (Miller et al, 2009), (Tookey et al., 2001), Walker and Newcombe (2000), (Walker and Smith, 1995), (Chu, 1999), (Merna and Smith, 1996), (Wilde Sapte, 1997), (Davis, 2004), (Davis and Walker, 2009), (Kornelius and Wamelink 1998), (Vrijhoef and Koskela 2000), (Duffield, 2008), (Cullen et al. 2005), (Love et al., 2009), (Hampson et al., 2001), (Furneaux et al., 2009), (Achieving Excellence in Construction Procurement Guide), (CABE, 2005), (Goldin, 1999), (Parmar <i>et al.</i> 2004), (Kashiwagi,1997), (Phillips et al.,2004), (Kelly and Male 1998), (Ndekugri and Corbett, 2004), (Khan, 2003), (International Trade Center UNCTAD/WTO, 1999), (World Bank, 2002).		
4.	Internal Influencing Factors		Q2 & Q4	QB 2, QB 3, QC 1, QC 2 & QC 3
	Nature of Clients	(Latham 1994), (Egan 1998), (Construction Client's Forum (CCF)), (Construction Round Table (CRT)), (Tookey et al., 2001), (Cox and Townsend, 1997), (Masterman and Duff, 1994), (Davenport and Smith, 1995), (Edum- Fotwe <i>et al.</i> ,1997), (Masterman, 1994), (Rowlinson 1999), (Moavenzadeh, 1978),	Q2 & Q4	QB 2, QC 1, QC 2 & QC 3

		(Ofori, 1991)		
	Client Objectives	(Tookey et al., 2001), (Walker, 1996), (Kumaraswamy and Dissanayaka, 1996), (Bennet and Flanagan, 1983), (Masterman, 1994),	Q2 & Q4	QB 2, QC 1, QC 2 & QC 3
	Project Characteristics	(Luu et al., 2003), (Morledge et al., 2006), (Nahapiet, 1985), (Nahapiet and Nahapiet 1985), (NEDO, 1985), (Skitmore and Marsden, 1988), (Turner, 1990), (Love <i>et al.</i> , 1998).	Q2 & Q4	QB 2, QC 1, QC 2 & QC 3
	Lack of understanding of appropriate procurement methods	(Naoum, 1994), (Luu <i>et al.</i> , 2005), (Nam and Tatum, 1997), (Slaughter, 1998), (Shields, 2005), (Nahapiet and Nahapiet, 1985) and (Miller et al., 2009).	Q2 & Q4	QC 4
	Performance Requirements	(Nahapiet and Nahapiet 1985), (March and Simon, 1958), (Cyert and March, 1963).	Q2, Q4 & Q5	QB 2 & QC 1
	Problems in Contract Management	(Ogunlana and Sysavath, 2000), (World Bank, 1984), (Aniekwu and Okpala, 1987), (Enshassi, 1999), (Tutesigensi and Moodley, 1999),	Q2, Q4 & Q5	QB 2 & QC 2
	Risk Management	(Royal Society, 1991), (Edwards et al., 2005), (Edwards and Bowen, 2004), (Edwards and Bowen, 1999), (AS/NZS 4360, 1999), (Miller et al., 2009), (Victorian Government (Australia), 2001), (Mustow, 2004), (Young and Kielkiewicz-Young, 2001), (ACEA, 2008) and (Morledge et al., 2006).	Q2, Q4 & Q5	QB 2 & QC 2
5.	External Influencing Factors	(Luu et al., 2003), (Sheath <i>et al.</i> , 1994), (Chen, 2000), (Walker, 1989), (Hughes, 1989), (Mcdermott and Rowlinson, 1999) and	Q2 & Q4	QB 1, QB

		(Ratnasabapathy et al., 2000)		2, QC 1 & QD 1
	Culture	(Hofstede, 1980, 1983, 1984, 1985, 1987, 1994), (Rowlinson et al., 2008), (Vecchio et al., 1992), (Terpstra and David, 1985), (Joiner, 2000), (Denison, 1990), (Barthorpe et al., 1999), (Thompson, 1993), (Mwaura et al., 1998), (Olie, 1995), (Pheng and Yuquan, 2002), (Hoecklin, 1996), (Trompennars, 1994), (Ngowi, 2000), (Schneider, 1992), (Root, 1997), (Fellows et al., 1994), (Handy, 1985), (Ofori, 2000), (Rwelamila et al, 2000), (Rowlinson and Root, 1997), (Liu and Fellows, 1999) and (Applebaum, 1991).	Q2, Q4 & Q5	QB 2 & QD 1
	Political	(Weingast et al., 1981), (Murray, 2007), (Ellram and Carr, 1994), (Raymond, 2008), (Arrowsmith and Davies, 1998) and (Riley and Lewis, 2008),	Q2, Q4 & Q5	QB 1 & QD 1
	Finance and Foreign Aid	(Moavenzadeh, 1978), (UN, 1966), (Quartey, 1996), (White, 1976), (Khan, 2003), (Ariff, 1998), (World Bank, 2001), (Mannion and Smith, 1997), (Asian Development Bank, 1999), (Luqmani et al., 1988), (Jayaraman et al., 1999), (International Trade Center UNCTAD/WTO, 1999), (World Bank, 2002).	Q2, Q4 & Q5	QC 1 & QD 1
	Economic	(Oyegoke, 2009), (Walker and Rowlinson, 2008), (Coase, 1937), (Hughes et al, 2006), (Miller, 2002), (Gray and Hughes, 2001), (Williamson, 1975, 1985, 1990), (Reve and Levitt 1984), (Winch,	Q2 & Q4	QD 1

		1989), (Reve 1990), (Casson 1994), (Winch 1995), (Dietrich 1994), (Lyons 1994, 1995), (Dutta and John 1995) (Riley and Lewis, 2008), (Hillebrandt and Cannon, 1990), (Ofori, 1991), (Colean and Newcomb, 1952), (Briscoe, 1988), (Ofori, 1984), (Miller, 2000), (World Economic Forum, 2007) and (Francois and Manchin, 2007)).		
	Technology	(Ofori, 1994), (Nader and Zahlan, 1969), (McGinn, 1991), (ESCAP, 1993), (UNCHS 1993), (Kirmani and Baum, 1992), (Schilderman, 1992), (Ofori, 1993), (Syagga, 1993), (Wells, 1993), (Ofori, 1990) and (UNCHS, 1990).	Q2, Q4 & Q5	QD 1
	Regulatory	(Moavenzadeh, 1978),	Q2, Q4 & Q5	QD 1
	Market	(Ofori, 1980, 1987, 1989), (Turin, 1973), (Moavenzadeh, 1978), (Andrews <i>et al.</i> , 1972)	Q2, Q4 & Q5	QD 1
	Innovation	(Freeman, 1989), (Khalfan and McDermott, 2006), (Ling, 2003), (Asad <i>et al.</i> , 2005), (Miller <i>et al.</i> , 2009), (Lædre <i>et al.</i> , 2006), (Tookey <i>et al.</i> , 2001), (Fryer, 2004), (OECD, 2005), (Thorpe ,Ryan and Charles, 2008), (Winch, 1998), (Shields, 2005), (Gann and Salter, 2000),	Q2, Q4 & Q5	QD 1
	Trend in Adoption of Procurement Practices of Developed Countries	(Moavenzadeh, 1978), (Morledge <i>et al.</i> , 2006), (Turin, 1973), (Aniekwu and Okpala, 1988), (Ofori, 1991) and (Wells, 1986)	Q2, Q4 & Q5	QD 1

	Private sector investment in infrastructure projects	(McCowan and Mohamed, 2000), (Han and Diekmann, 2001), (Dailami et al., 1999), (Ho and Liu, 2002), (Zhi, 1995), (Baloi and Price, 2002), (Gupta and Sravat, 1998), (Kumaraswamy and Morris, 2002), (Ozdoganm and Birgonul, 2000).	Q2, Q4 & Q5	QD 1
	Supply Chain Management	(Christopher 1992), (Cooper and Ellram 1993), (Koskela 1992), (Love et al., 2004), (Akintoye et al., 2000), (Vrijhoef and Koskela, 2000), (Love, 2000), (Dainty et al., 2001), (Pearson, 1999), (Wong and Kanji, 1998), (Wong and Fung, 1998), (Simon Report, 1944), (Banwell, 1964) (Latham, 1994), (Egan, 1998), (Love et al., 2000), (Lamming, 1996), (Vrijhoef and Koskela, 2000), (Love et al., 1999), (Khalfan et al., 2001), (Hoxley, 2001), (Dubios and Gadde, 2000), (Barker et al., 2000), (Smyth,2000, 2004, 2005), (Walker & Rowlinson, 2008), (Gummesson, 2001), (Green and May 2003), (Grönroos, 2000), (Storbacka et al., 1994).	Q2, Q4 & Q5	QD 1

2.14 Pakistan

The following sections provide information about the country of Pakistan starting with a brief history and background, then discusses the geography, economic, government and political situation and the prevailing security situation in Pakistan.

2.14.1 Brief History and Background

The Islamic republic of Pakistan emerged as an independent sovereign state on the 14th of August 1947, as a result of the division of former British India (Government of Pakistan, 2011). East and West Pakistan was created from the

frontier areas of British India, where the military had always been an integral part of local administration, civilian institutions were correspondingly weak and provincial loyalties strong (FCO, 2011). Pakistan was created by the All India Muslim League to be a homeland for the Muslims of British India. However, Pakistan's new leaders found it hard to devise a constitutional structure that could unite the various provinces, and incorporate both the East and West portions of the country and it took almost eight years to agree a final constitution which established Pakistan as a republic within the Commonwealth in 1956 (FCO, 2011). In 1958, General Ayub Khan launched Pakistan's first military coup and martial law was declared, political parties abolished and a pattern of military control was established that has characterised almost half of Pakistan's existence since independence (FCO, 2011) two other martial laws have occurred in Pakistan in 1977 and 1999 respectively. After General Ayub Khan became the president in 1960 a new constitution was promulgated in 1962 placing politics firmly under military guidance (FCO, 2011). Finally in 1973 the permanent constitution of Pakistan was formalised and finalised. The first election on a nationally democratic basis was conducted in 1970 and the elections saw the East-Pakistan Awami League gaining an overall majority which the West Pakistan administration refused to accept set the stage for a new constitutional crisis that in turn led to civil war in March 1971 and resulting in the emergence of East Pakistan as the independent state of Bangladesh (FCO, 2011).

2.14.2 Geography

Pakistan lies between 23-35 to 37- 05 north latitude and 60-50 to 77- 50 east longitude touching the Hindukush Mountains in the north and extending from the Pamirs to the Arabian Sea (Government of Pakistan, 2011). Pakistan covers an area of 796,095 sq.km with a population of 132.35 million according to population census 1998 (Government of Pakistan, 2011) the estimated population of Pakistan presently stands at 187.342 million (CIA, 2011). Pakistan is about three-and-a-half times the size of the UK (FCO, 2011). It shares borders with 4 countries, India to the east, China to the north east, Iran to the south west and Afghanistan along the western and northern boundaries (FCO, 2011). Pakistan's coastline on the Arabian Sea is 1,064 km long (FCO, 2011). Pakistan is divided into four provinces i.e. Balochistan, the Khyber-Pakhtunkhwa (formerly North-

West Frontier Province), Punjab and Sind. In addition to the four provinces there are also the Federally Administered Tribal Areas (FATA), the Federally Administered Northern Areas (FANA), and the Islamabad Capital Territory and Pakistan-administered Kashmir is known in Pakistan as Azad Jammu and Kashmir (AJK) (FCO, 2011).

2.14.3 Economy

Pakistan is an impoverished and developing country and has suffered from decades of internal political disputes and low levels of foreign investment (CIA, 2011). In Pakistan between the years 2004 to 2007 the gross domestic product (GDP) growth was in the 5-8% range and was spurred by gains in the industrial and service sectors despite severe electricity shortfalls but the growth slowed in 2008-09 and unemployment rose (CIA, 2011). Inflation in Pakistan is quite high and is a top concern among the public, the inflation rate climbed from 7.7% in 2007 to more than 13% in 2010 (CIA, 2011). In addition, the Pakistani rupee has depreciated since 2007 as a result of political and economic instability and the government agreed to an International Monetary Fund (IMF) Standby Arrangement in November 2008 in response to a balance of payments crisis, but during 2009-10 its current account strengthened and foreign exchange reserves stabilized largely because of lower oil prices and record remittances from workers abroad (CIA, 2011). The record high floods in July and August 2010 lowered agricultural output and contributed to a jump in inflation, and reconstruction costs seem to strain the limited resources of the government (CIA, 2011). Textile industry is the biggest export earner in Pakistan, but Pakistan has failed to expand a viable export base for other manufactures which has left the country vulnerable to shifts in world demands also in Pakistan there high degree of dependence on foreign donors (CIA, 2011).

2.14.4 Government and Politics

Pakistan is a Federal republic and hence has a federal parliamentary system or bicameral parliament comprising of two houses i.e. the Senate (upper house) and the National Assembly (lower house) (FCO, 2011). The National Assembly in

Pakistan has 342 seats out of which 272 members are elected by popular vote, 60 seats reserved for women and 10 seats reserved for non-Muslims and all members serve five-year terms (CIA, 2011). In Pakistan the length of the parliamentary term in Pakistan unless the Assembly is dissolved early which is at the instigation of the Prime Minister of Pakistan (FCO, 2011). The National Assembly elects the Prime Minister, who is the head of government and must be a member of the National Assembly (FCO, 2011). The upper house i.e. the Senate in Pakistan has 100 seats and members are elected by each of the four provincial assemblies, which are represented in equal number (FCO, 2011). There are 12 additional members from the Federally Administered Tribal Areas (FATA) and the Islamabad Capital Territory (ICT) and the Federal Cabinet is comprised of members from both the National Assembly and the Senate (FCO, 2011). In Pakistan the President is the head of state and the president is elected to a five-year terms by an electoral college consisting of members of the Senate, National Assembly, and provincial assemblies and a single president can serve a maximum of two consecutive terms (FCO, 2011). Recently through the 18th Amendment in the 1973 constitution of Pakistan which was passed in April 2010 this has granted provinces authority over much of what was previously federal policy including areas such as education and health (FCO, 2011). In Pakistan for a bill to become law, it must be passed by both houses and signed off by the Prime Minister and the President of Pakistan (FCO, 2011).

2.14.5 Security

Since September 11 2001 incident in the United States have let to the war on terror. Pakistan has also been engulfed by this war on terror and as a result the security situation in Pakistan has worsened day by day. The aftermath of September 11 Pakistan has become a place with frequent terrorist attacks, kidnappings, sectarian violence and having an unpredictable security situation. In Pakistan presently there is a very high threat of terrorist attack against places like hotels (particularly hotels catering to Westerners), restaurants, clubs, religious sites and places of worship, shopping centres or shopping areas, banks, and educational facilities including universities and schools. Attacks over the last year have focused on Pakistani Government targets, particularly security and military personnel and institutions. Many recent attacks have targeted places of worship

and religious sites. The Federally-Administered Tribal Areas (FATA), Khyber-Pakhtunkhwa (formerly the North-West Frontier Province) and Baluchistan are extremely dangerous due to the security environment. Kidnapping and assassination remains a threat throughout the country, in particular in Khyber-Pakhtunkhwa and the Federally Administered Tribal Areas (FATA). Numerous operations have been conducted in the country especially FATA and Khyber Pakhtunkhwa to oust the militants; also FATA has been the site for frequent unmanned US drone attacks against militants. These operations have resulted in internally displaced people (IDP's) which are estimated to be around 2.7 million between April and July 2009, the largest internal displacement of population in the country's history (IDMC, 2010).

According to Pakistan Institute of Peace Studies (PIPS) which is an independent, not-for-profit non governmental research and advocacy think-tank. Their report on security in Pakistan states that a total of 2,113 militant, insurgent and sectarian-related terrorist attacks were reported from across the country killing 2,913 people and injuring another 5,824. The worst affected region of the country was the insurgency-hit province of Balochistan where the highest number of attacks was reported (737), followed by the militancy-infested Federally Administered Tribal Areas (720). Khyber Pakhtunkhwa was the third most volatile region of the country with 459 attacks; while 111 attacks were reported in Sindh, 62 in Punjab, 13 in Gilgit Baltistan, 6 in Islamabad and 5 in Azad Kashmir (PIPS, 2010). The report further states that if casualties in terrorist attacks, operations by the security forces and their clashes with the militants, inter-tribal clashes and cross-border attacks (including drone strikes and incursions by NATO/ISAF forces in FATA) in Pakistan are counted, the overall figures in 2010 amounts to 10,003 people dead and 10,283 people injured (PIPS, 2010). The report further states that in actual this is a decrease from the previous years as Pakistan witnessed an overall decrease in the number of violent incidents in 2010 which has been reported to be the first time that had happened since 2007 (PIPS, 2010). The report further states that a total of 3,393 attacks were reported in 2010 compared to 3,816 in 2009, a decrease of 11 percent (*ibid*). Similarly, the overall casualties also have gone down, from 12,623 fatalities in 2009 to 10,003 in 2010 (*ibid*). The number of people injured in these attacks also declined from 12,815 in 2009 to 10,283 in 2010. The number of suicide attacks across the country also fell by 22 percent in

comparison with 2009, with 68 suicide attacks in 2010, compared to 87 the previous year (*ibid*). Nearly half the suicide attacks were concentrated in Khyber Pakhtunkhwa province and attacks by US drones in FATA registered a 165 percent increase in 2010 compared to the previous year (*ibid*).

2.15 Summary

The chapter has provided a review of literature and research in different areas of procurement related to this research. The literature review is structured in stages, the initial stage was to define the topic and relevant terms, the second stage was to explore the literature in the context of the developed countries, third stage was to explore literature in the context of the developing countries while the final stage of the literature review is the outcomes which the researcher has deduced from conducting this examination of theory and literature. The chapter also provides a literature review summary sheet that portarays the major issues. The main themes that were discovered during this literature review are the importance of principles of procurement (which includes value and value for money (VFM), ethics, competition, transparency and accountability), the importance of procurement selection process, the different procurement choices /systems and its advantages and disadvantages, the internal influencing factors (which includes nature of clients, client objectives, project characteristics, lack of understanding of appropriate procurement methods, performance requirements, problems in contract management and risk management), the external influencing factors (which includes culture, political, finance and foreign aid, economic, regulatory, trend in adoption of procurement practices of developed countries, supply chain management and private sector investment in infrastructure projects). The chapter also provides a brief background about Pakistan its history, government and politics and the prevailing security situation in Pakistan.

Chapter 3

Research Design and Methodology

The aim of this chapter is to describe the research method and design that is used in carrying out this research. The chapter starts by explaining what is research, understanding research methods and designs and then provides an overview of different philosophical perspectives and paradigms especially interpretive and constructivist paradigm and why it has been adopted in this research methodology. Then in this chapter discussion is made on methodological aspects of archival analysis, case study research and qualitative data collection and analysis. The last section describes the research design for this research. A discussion is also provided in this chapter for the choice of a research strategy, data collection and analysis methods according to theory as well as the arguments which lead to qualitative case study research. The research processes according to different authors is also provided and considers in more detail the theory and practice of each of these steps such as archival analysis; case study design; preparing for data collection; conducting research and analysing the data and reporting.

3.1 Understanding the Meaning of Research

The Longman dictionary (1995) defines research as “the studious study of a subject that is intended to discover new facts or test new ideas; the activity of finding information about something that one is interested in or needs to know about”. Research has been described as a systematic investigation (Burns, 1997) or inquiry whereby data are collected, analysed and interpreted in some way in an effort to understand, describe, predict or control a phenomenon (Mertens, 2005). O’Leary (2004) puts forward the argument that what was relatively simple to define thirty or forty years ago has become far more complex in recent times with the number of research methods increasing dramatically, “particularly in the social/applied sciences”. It has been suggested, however, that the “exact nature of the definition of research is influenced by the researcher’s theoretical framework” (Mertens, 2005) with theory being used to establish relationships between or among constructs that describe or

explain a phenomenon by going beyond the local event and trying to connect it with similar events (Mertens, 2005).

3.2 Research Paradigms and Philosophical Perspectives

The theoretical framework, as distinct from a theory, is sometimes referred to as the paradigm (Mertens, 2005; Bogdan and Biklen, 1998) and influences the way knowledge is studied and interpreted (Mackenzie and Knipe, 2006). It is the choice of paradigm that sets down the intent, motivation and expectations for the research (*ibid*). Without nominating a paradigm as the first step, there is no basis for subsequent choices regarding methodology, methods, literature or research design (*ibid*). Paradigms are not discussed in all research texts and are given varied emphasis and sometimes conflicting definitions (*ibid*). The term 'paradigm' may be defined as "a loose collection of logically related assumptions, concepts, or propositions that orient thinking and research" (Bogdan and Biklen 1998) or the philosophical intent or motivation for undertaking a study (Cohen & Manion 1994). Alternatively Mac Naughton et al. (2001) provide a definition of paradigm, which includes three elements: a belief about the nature of knowledge, a methodology and criteria for validity (Mackenzie and Knipe, 2006). Some authors prefer to discuss the interpretive framework in terms of 'knowledge claims' (Creswell, 2003); epistemology or ontology; or even research methodologies (Neuman, 2000) rather than referring to paradigms (Mackenzie and Knipe, 2006). A number of theoretical paradigms are discussed in the literature such as: positivist (and postpositivist), constructivist, interpretivist, transformative, emancipatory, critical, pragmatism and deconstructivist (Mackenzie and Knipe, 2006). The use of different terms in different texts and the varied claims regarding how many research paradigms there are, sometimes leads to confusion for the first time or early career researcher (Mackenzie and Knipe, 2006). However Saunders et al (2003) has conceptualised these variations in a graphical way which they have described as a 'research onion'. The 'research onion' has provided a simplified understanding of research and is shown in Figure 3.1 below. It starts with the outer layer that illustrates various philosophies and paradigms. The second layer epitomizes two broad methods of reasoning in research i.e. the inductive and deductive approach. The third layer lists the research strategies available. The fourth layer provides the choices of three different types of methodologies of research based on qualitative and quantitative methods i.e. mono, mixed and multi methods. The fifth layer provides the time horizons

regarding research i.e. either cross sectional or longitudinal, cross sectional studies are conducted in one point in time while longitudinal are conducted at several points in time. The final sixth layer points to the fact that all these philosophies, approaches, strategies, choices and time horizons lead to the decision of techniques and procedures of data collection and analysis.

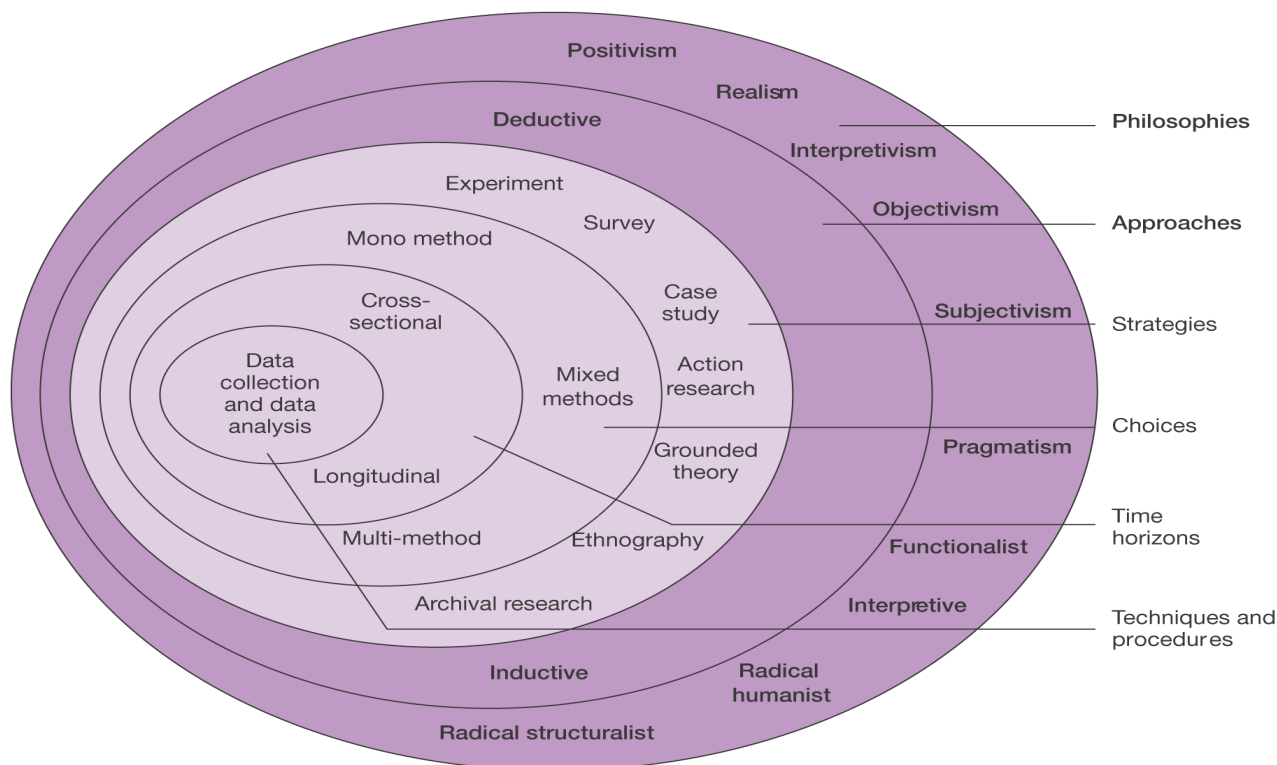


Figure 3. 1: Research Onion, Source (Saunders, Lewis, Thornhill (2003))

3.3 Understanding Research Methodologies and Designs

Methodology is a body of knowledge that enables researchers to explain and analyse methods, indicating their limitations and resources, identifying their presuppositions and consequences, and relating their potentialities to research advances (Miller 1983). Moreover, it underpins the types of questions that can be addressed and the nature of the evidence that is generated (Clark et al., 1984). Therefore, the issue of research methodology is important to any study. Appropriation between research paradigm, type of data, and collection methods has significant implications upon the research findings. The research methods are predominantly divided into two methods i.e. quantitative and qualitative methods.

According to Golafshani (2003) researchers who use quantitative research employ experimental methods and quantitative measures to test hypothetical generalizations

(Hoepfl, 1997), and they also emphasize the measurement and analysis of causal relationships between variables (Denzin and Lincoln, 1998). Golafshani (2003) states that quantitative research allows the researcher to familiarize him/herself with the problem or concept to be studied, and perhaps generate hypotheses to be tested. In qualitative research: (1) the emphasis is on facts and causes of behaviour (Bogdan & Biklen, 1998), (2) the information is in the form of numbers that can be quantified and summarized, (3) the mathematical process is the norm for analysing the numeric data and (4) the final result is expressed in statistical terminologies (Charles, 1995).

Golafshani (2003) states that qualitative research uses a naturalistic approach that seeks to understand phenomena in context-specific settings, such as "real world setting [where] the researcher does not attempt to manipulate the phenomenon of interest" (Patton, 2001). Qualitative research, broadly defined, means "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss and Corbin, 1990) and instead, the kind of research that produces findings arrived from real-world settings where the "phenomenon of interest unfold naturally" (Patton, 2001). Unlike quantitative researchers who seek causal determination, prediction, and generalization of findings, qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations (Hoepfl, 1997).

There are several choices for research methods. Researcher may employ only single type of method or combine alternative method together as shown in Figure 3.2 below.

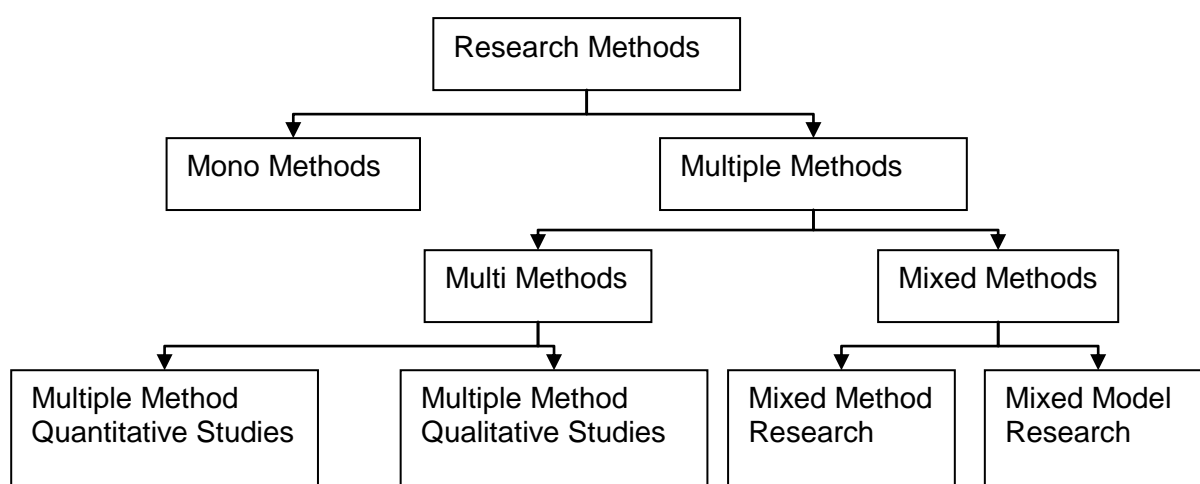


Figure 3. 2: Research methods, Source (Saunders et al. (2007))

Research design provides an overall guidance for the collection and analysis of data of a study (Churchill 1979). A choice of research design 'reflects decisions about the priority being given to a range of dimensions of the research process (Bryman and Bell 2007). It is therefore a blueprint that enables researchers to find answers to the questions being studied for any research project. Along with clear research plan it provides, constraints and ethical issues that a study will inevitably encounter must also be taken into account (Saunders et al., 2007).

The following sections explain philosophical positions, research approaches, strategies, and field procedures for this study.

3.4 Interpretive/Constructivist Paradigm as the Paradigm for this Research

The objective of this research is to provide a detailed explanation of the types of project procurement practices in Pakistan, the differences in these practices, and use this information to explain whether they impede or facilitate in successful delivery of projects. This makes this research exploratory, investigative and theory building in nature, such studies fits very well in the interpretive/constructivist paradigm.

The different approaches take distinctively different epistemological positions regarding theoretical foundations, assumptions, and purposes while producing competing modes of inquiry. The philosophical base of interpretive research is hermeneutics and phenomenology (Boland, 1985). According to Mackenzie and Knipe (2006) the interpretive/constructivist paradigm grew out of the philosophy of Edmund Husserl's phenomenology and Wilhelm Dilthey's and other German philosophers' study of interpretive understanding called hermeneutics (Mertens, 2005, citing Eichelberger, 1989). Mackenzie and Knipe (2006) state that the interpretive/constructivist approaches to research have the intention of understanding "the world of human experience" (Cohen & Manion, 1994), suggesting that "reality is socially constructed" (Mertens, 2005). Myers (2009) state that interpretive researchers start out with the assumption that access to reality (given or socially constructed) is only through social constructions such as language, consciousness and shared meanings. Interpretive studies generally attempt to understand phenomena through the meanings that people assign to them (Myers, 2009). Interpretive research seeks to understand values, beliefs, and meanings of social phenomena, thereby obtaining *verstehen* (a deep and

sympathetic understanding) of human cultural activities and experiences (Smith and Heshusius, 1986). The interpretive/constructivist researcher tends to rely upon the "participants' views of the situation being studied" (Creswell, 2003) and recognises the impact on the research of their own background and experiences (Mackenzie and Knipe, 2006). Constructivists do not generally begin with a theory (as with post-positivists) rather they "generate or inductively develop a theory or pattern of meanings" (Creswell, 2003) throughout the research process (Mackenzie and Knipe, 2006). The constructivist researcher is most likely to rely on qualitative data collection methods and analysis or a combination of both qualitative and quantitative methods (mixed methods) (Mackenzie and Knipe, 2006). Quantitative data may be utilised in a way, which supports or expands upon qualitative data and effectively deepens the description (Mackenzie and Knipe, 2006).

3.5 Research Design Strategies in Interpretive/Constructivist Paradigm

Walker (1997) suggests that researchers have to struggle with vexing questions of choosing an appropriate methodology to investigate their research questions. He further suggests that generally researchers search the literature for ideas on how other researchers have addressed similar problems, and ranges of approaches are available. A research design is the logic that links the data to be collected and the conclusions to be drawn to the initial questions of a study; it ensures coherence (Rowley, 2002). Sekaran (1992) describes methodological research design as representing a planned and structured process of investigation of an identified research question that is logically conceived, developed, and answered as reliably, accurately, and objectively as possible. Various strategies that usually fall in this interpretive paradigm are shown below in Table 3.1.

Table 3. 1: Various approaches in the Interpretive Paradigm (Source (Maqsood, 2006))

Research Approach	Research Questions	Key Features
Case Study	How, why	Case studies can either be explanatory, exploratory, or descriptive, in all cases focusing on contemporary phenomenon in real-life settings. They allow the capture and analysis of many variables, but are generally restricted to a defined event or organisation, making generalisation difficult.
Archival	Who, what,	Based upon the quantitative and qualitative analysis of

Analysis	where, how many / much	archival records to describe the incidence or prevalence of a phenomenon, or to be predictive about certain outcomes.
History	How, why	Explanatory studies that deal with operational links over time.
Subjective Argumentative	What	A creative, free-flowing, unstructured approach to theory building that is based upon opinion and speculation. A subjective approach that places considerable emphasis upon the perspective of the researcher, its objective is the creation of new ideas and insights.
Action Research	What to do, how, why	This is applied research where there is an attempt to obtain results and benefits of practical value to groups with whom the researcher is allied, while at the same time maintaining a holistic perspective and adding to theoretical knowledge. The underlying philosophy is that the presence of the researcher will change the situation under investigation.
Grounded Theory	What	A structured approach to forming and eliciting theory grounded in data.
Descriptive, Interpretive	What, how, Why	Based upon the philosophy that phenomena are the essence of experience, this form of research seeks to represent reality using an in-depth self-validating process in which presuppositions are continually questioned, and the understanding of the phenomena under study is refined. The approach allows the development of cumulative knowledge by incorporating the thorough review of the literature and past research as well as the current investigation. This encourages additional insight, and well as ensuring that subsequent research builds on past endeavours.

3.5.1 Research Strategy and Approach Adopted for this Research

In this research design the researcher aims to address this issue of developing an appropriate methodological solution to address the research questions at hand. Given that the researcher has a finite amount of resources available a choice of research method is necessary (Fellows and Liu, 2003). The choice is affected by consideration of the scope and depth of investigation required (*ibid*). The aim of the research reported upon in this doctoral study is to investigate the role of procurement practices in effective implementation of infrastructure projects in a developing country i.e. Pakistan. This research objective makes this research predominantly 'investigative' and 'exploratory', where examining infrastructure procurement practices in Pakistan and its impact on successful project outcomes is the primary objective. The forms of research questions in this study focus on how, what, why and how many questions. Adopting the

procedure suggested by Yin (2003) regarding choice of research methods based on research questions as shown in Figure 3.3 below on page 140. Regarding the how and why questions in which the researcher has not control over events but the focus is on contemporary events suggests the adoption of case study method to address the questions. Regarding the who, what, where, how many and how much questions in which the focus is not on contemporary events suggests the adoption of archival analysis. After careful consideration to different approaches the researcher has deduced that for an effective investigation into the research questions as shown in Table 3.2 below on page 141 it would be best suited that the research design be multi method qualitative research as shown in Figure 3.4 below on page 140. Qualitative case study research and archival analysis becomes the most appropriate choice in this scenario. Case studies and archival analysis are approaches that support deeper and more detailed investigation which is the intent of this research. An advantage of implementing multiple-method research is to avoid weaknesses of a particular method (Näslund 2002; Mangan et al. 2004; Ramsey 2007; Boyer and Swink 2008; Carter et al. 2008).

The first objective of this doctoral study is to identify the different types of procurement practices in Pakistan. This suggests that to find this information the researcher has to delve and look into documents which fits well with archival analysis. The analysis of archival records helped to describe the incidence and prevalence of the phenomenon under investigation i.e. 'procurement practices'. The second and third objectives are finding the major issues that affect procurement practice and perception of procurement practice to deliver successful project outcomes which was investigated by case study research method. The reason being that case studies can be exploratory and investigative focusing on contemporary phenomenon in real-life settings hence using case studies allowed the capture and analysis of many variables, but are generally restricted to a defined event or organisation. The last two objectives of the research i.e. identifying the barriers to effective implementation of procurement systems and identifying the challenges Pakistan face and conduciveness of the environment to adopting modern procurement methods and systems was achieved by combination of case study and archival analysis.

The instruments chosen were interviews and document analysis as the research questions posed were more concerned on the depth and not the breadth of the

investigation. Triangulation was conducted as the researcher was using more than one research method to investigate the same problem in order to increase the validity of the study. The choice of research methods based on research questions as shown in Figure 3.3 below while the research method adopted is shown in Figure 3.4 below

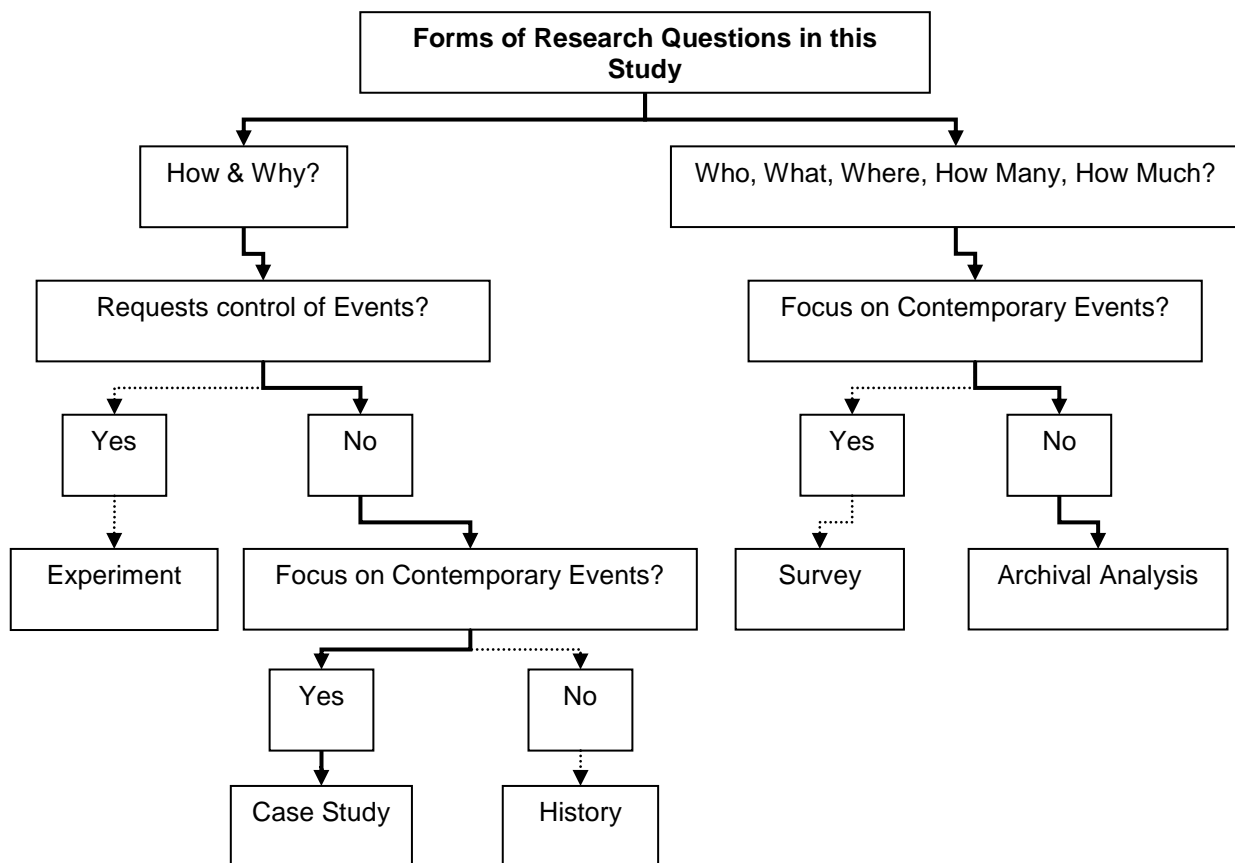


Figure 3. 3: Choice of Research Methods Based on Research Questions (Source Yin (2003))

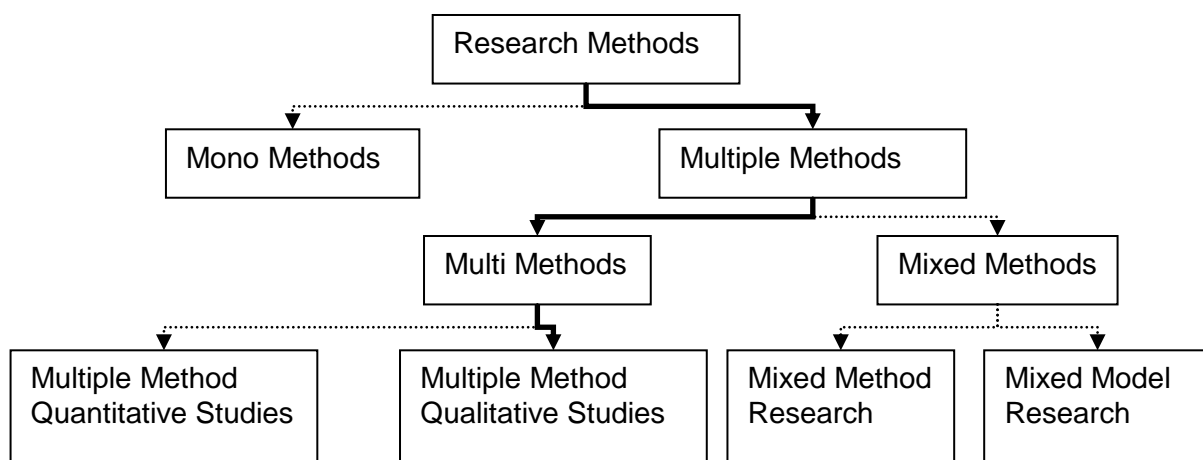


Figure 3. 4: Research Method Adopted (Source: Saunders et al. (2007))

Table 3. 2: Research Question and Research Approach

Serial No.	Primary Research Question	Research Approach	Research Instrument
Q1.	What are the different types of procurement practices in Pakistan?	Archival Analysis	Document Analysis
Q2.	What are the major issues that affect the procurement practice in Pakistan?	Case Studies	Interviews
Q3.	How procurement practices are perceived to deliver successful project outcomes?	Case Studies	Interviews
Q4.	What are the barriers to effective implementation of these procurement systems?	Archival Analysis & Case Studies	Document Analysis & Interviews
Q5.	What challenges does a developing country like Pakistan face while adopting modern procurement methods and systems? How enabled is the environment to accept new and innovative forms of procurement?	Archival Analysis & Case Studies	Document Analysis & Interviews

3.6 Comprehending Archival Analysis

The use of an “archival” research method entails the use of secondary data sources, in which researchers analyse data contained in an archived record. Archival records are useful in some case studies since they include service record, maps, charts, list of names, survey data and even personal records such as diaries (Yin, 1994). Documentary information is important in a case study because it supports and argues evidence from other sources. This type of information can be obtained from various sources such as letters, memoranda and other communiqués, agendas, announcements, minutes of the meetings, administrative documents (proposals, progress reports and other internal documents, formal studies done on the same case (cases), newspapers and other articles appearing in the mass media (Yin, 1994).

When should archival research method be used? The first and most important condition for differentiating among the various research methods is to classify the type of research question being asked (Yin, 1994). If the form of research questions are who, what, where, how many / much then such questions are better answered based upon the quantitative and qualitative analysis of archival records to describe the incidence or prevalence of a phenomenon, or to be predictive about certain outcomes (Galliers, 1992 and Yin, 1994).

Official documents are a valuable source of data for analysing however, there are a number of methodological and practical problems associated with using data of this kind. Scott (1990) identified four criteria to solve the methodological problems associated with using documentary data.

- Authenticity refers to authorship, whether the author can be identified and verified, plus soundness, whether a document is an original or technically sound copy (Scott, 1990).
- Credibility is concerned with accuracy, whether a document is free from error and distortion, plus sincerity, whether the author actually believed what they recorded and why they chose to produce the document (Scott, 1990).
- Representation relates to availability, whether complete records have been maintained, plus sampling, whether the documents consulted are representative of the totality of relevant documents (Scott, 1990).
- Meaning is concerned with the literal and interpretative dimensions of understanding. The former refers to the ability of researchers to actually read the documents and understand its linguistic forms. The latter concerns the 'hermeneutic process in which the researcher relates the literal meanings to the contexts in which they were produced in order to assess the meaning of the text as a whole (Scott, 1990).

There are three practical problems associated with using documentary data i.e. access, cost and utility. In terms of access, documents may be missing, may not exist, or if they do exist, may be confidential. Even where access is granted, there may be restrictions on using or publishing the data. In terms of cost, obtaining and analysing documents may be costly, both financially and in terms of time. In terms of utility, documents may not have been compiled in a clear and consistent manner, or may have been kept for internal rather than public use, with implications for clarity and quality. Furthermore, "formal organisational rules are often supplemented, sometimes even overwritten, by informal rules, and such practices may affect' consistency 'over a period of time, over and above any changes to the formal rules about documents they are kept or the activities to which they relate" (Hakim, 2000).

Scott (1990) generated a typology of modern documents used in social science research, identifying 12 different types of document. These were classified according to authorship (personal, official private and official state documents) and access (closed, restricted, archival and published documents).

3.7 Understanding Case Study Research Method

What is case study research? de Weerd-Nederhof (2001) state that a case study research is a research strategy using case studies, involving qualitative data collection and analysis. Eisenhardt (1989) states that the case study is a research strategy which focuses on understanding the dynamics present within single settings and can employ an embedded design, that is, multiple levels of analysis within a single study. Case studies typically combine data collection methods such as archives, interviews, questionnaires and observations (de Weerd-Nederhof, 2001). Yin (1989) gives a strict and more “technical” definition:

A case study is an empirical inquiry that

- investigates a contemporary phenomenon within its real-life context; when
- the boundaries between phenomenon and context are not clearly evident; and in which
- multiple sources of evidence are used.

Yin (1989) and Eisenhardt (1989) agree that case studies can be used to accomplish various aims: to provide description, test theory or generate theory; exploratory and explanatory (de Weerd-Nederhof, 2001). Both authors also stress that case studies can involve qualitative data only, quantitative only, or both (moreover, the combination of data types can be highly synergistic) (de Weerd-Nederhof, 2001).

The case study method is a qualitative approach dealing with qualitative data which are similar to the quantitative survey studies that are so predominant within management research (Damgaard et al., 2000). According to Rowley (2002) case studies have often been viewed as a useful tool for the preliminary, exploratory stage of a research project, as a basis for the development of the ‘more structured’ tools that are necessary in surveys and experiments. For example, Eisenhardt (1989) says that case studies are “particularly well suited to new research areas or research areas for which existing

theory seems inadequate”. Case studies are useful in providing answers to ‘How?’ and ‘Why?’ questions, and in this role can be used for exploratory, descriptive or explanatory research (Rowley, 2002). She further states that the first stage is to decide whether case studies can be useful for a specific kind of investigation (*ibid*).

The issue of types of research question is the most significant in determining the most appropriate approach (*ibid*). Yin (1994) summarises the different kinds of research questions and methods that are most appropriate. Who, what and where questions can be investigated through documents, archival analysis, surveys and interviews (Rowley, 2002). Case studies are one approach that supports deeper and more detailed investigation of the type that is normally necessary to answer how and why questions (*ibid*).

3.7.1 Unit of Analysis, Specific Case Study Design, and Selection and Number of Cases

As a general guide, according to Yin (1989), the definition of the unit of analysis (and therefore of the case) is related to the way the initial research questions have been defined (de Weerd-Nederhof, 2001). It is important to be aware of boundary problems: how to distinguish the unit of analysis from its context, also in terms of timing the beginning and end of the case (de Weerd-Nederhof, 2001). de Weerd-Nederhof (2001) notes that should a researcher want to compare their findings with previous research, each case study and unit of analysis either should be similar to those previously studied by others or should deviate in clear, operationally defined ways (thus previous literature can become a guide for defining the case and unit of analysis) (de Weerd-Nederhof, 2001). Rowley (2002) state that the unit of analysis is the basis for the case. It may be an individual person (such as a business leader, or someone who has had an experience of interest), or an event, (such as a decision, a programme, an implementation process or organisational change), or an organisation or team or department within the organisation. It can sometimes be difficult to identify the boundaries of the unit of analysis (*ibid*). A key issue is that the case study should only ask questions about the unit of analysis, and any sub-units; sources of evidence and the evidence gathered are determined by the boundaries that define the unit of analysis (*ibid*).

In terms of specific case study designs Yin (1989) states that there are four basic types: single and multiple case designs which can either be holistic (single unit of analysis) or embedded (multiple unit of analysis) (de Weerd-Nederhof, 2001): “The single-case design is eminently justifiable where the case represents a critical test of existing theory, where the case is a rare or unique event, or where the case serves a revelatory purpose. ... The evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as more robust ... A major insight is to consider multiple cases as one would consider multiple experiments – that is, to follow a ‘replication’ logic” (Yin, 1989). The number of cases in a multiple case study should reflect the number of case replications – both literal and theoretical – one would like to have: “the number of literal replications depends upon the certainty you want to have about your multiple case results ... For the number of theoretical replications, the important consideration is related to your sense of the complexity of the realm of external validity” (Yin, 1989) depending upon whether external conditions are thought to produce much variation in the phenomenon being studied (de Weerd-Nederhof, 2001).

It may be clear that determining the number and selection of cases are closely related (de Weerd-Nederhof, 2001). Table 3.3 below shows that Eisenhardt (1989) considers both a specified population and theoretical, not random, sampling, important in selecting cases (de Weerd-Nederhof, 2001). She states that selection of an appropriate population controls extraneous variation and helps to define the limits for generalising the findings, but she also remarks that the sampling of cases from the chosen population is unusual when building theory from case studies, since such research relies on theoretical sampling (de Weerd-Nederhof, 2001), which is in line with Yin (1989): “The cases may be chosen to replicate previous cases or extent emerging theory, or they may be chosen to fill theoretical categories and provide examples of polar types ... given the limited number of cases which can usually be studied, it makes sense to choose cases such as extreme situations and polar types in which the process of interest is ‘transparently observable” (Eisenhardt, 1989).

Table 3. 3: Process of building theory from case study research. (Source (Eisenhardt, 1989))

Step	Activity	Reason
Getting started	Definition of research question	Focuses efforts
	Possibly a priori constructs	Provides better grounding of construct measures
Selecting cases	Neither theory nor hypothesis	Retains theoretical flexibility
	Specified population	Constrains extraneous variation and sharpens external validity
	Theoretical, not random, sampling	Focuses efforts on theoretically useful cases, i.e. those that replicate or extend theory by filling conceptual categories
Crafting instruments and protocols	Multiple data collection methods	Strengthens grounding of theory by triangulation of evidence
	Qualitative and quantitative data combined	Synergistic view of evidence
	Multiple investigators	Fosters divergent perspectives and strengthens grounding
Entering the field	Overlap data collection and analysis, including field notes	Speeds analyses and reveals helpful adjustments to data collection
	Flexible and opportunistic data collection methods	Allows investigators to take advantage of emergent themes and unique case features
	Within-case analysis	Gains familiarity with data and preliminary theory generation
Analysing data	Cross-case pattern search using divergent techniques	Forces investigators to look beyond initial impressions and see evidence through multiple lenses
	iterative tabulation of evidence for each construct	Sharpens construct definition, validity and measurability
Shaping hypotheses	Replication, no sampling, logic across cases	Confirms, extends, and sharpens theory
	Search evidence for "why" behind relationships	Builds internal validity
	Comparison with conflicting literature	Builds internal validity, raises theoretical level, and sharpens construct definitions
Enfolding literature	Comparison with similar literature	Sharpens generalisability, improves construct definition, and raises theoretical level
	Theoretical saturation when possible	Ends process when marginal improvement becomes small
Reaching closure		

Miles and Huberman (1994) consider the issues under consideration in two sections on defining the case (bounding the territory) and sampling (bounding the collection of data), respectively (de Weerd-Nederhof, 2001). In defining the case they recommend attending to several dimensions of the case, such as: its conceptual nature, its social size, its physical location and its temporal extent (de Weerd-Nederhof, 2001). Sampling operations should define the case(s) further (de Weerd-Nederhof, 2001). Multiple case sampling requires an explicit sampling frame, guided by the research questions and conceptual framework discussed above (*ibid*). Miles and Huberman (1994) include an interesting paragraph on within-case sampling (which activities, processes, events, times, locations, etc. will you sample?), which is almost always nested, must also be theoretically driven and has “an iterative or rolling quality, working in progressive ‘waves’ as the study progresses”.

Case selection must be determined by the research purpose, questions, propositions and theoretical context, but there will also be other constraints that impact on case selection (Rowley, 2002). These include accessibility (whether the data needed can be collected from the case individual or organisation), resources (whether resources are available to support travel and other data collection and analysis costs), and time available (if time is limited, it may be easier to analyse a small business rather than a large business, or to identify a unit of analysis within a large organisation, rather than seek to study the organisation in its entirety (*ibid*)).

3.7.2 Validity and reliability tests in Case Study research

According to Yin (1989), the quality of any given design can be judged according to the following four tests: construct validity; internal validity (for explanatory or causal studies only, and not for descriptive or exploratory studies); external validity; and reliability (de Weerd-Nederhof, 2001). Yin (1989) gives a number of case study tactics for dealing with each of these tests and indicates the phase of research in which the tactics (should) occur which are listed in Table 3.4 below. Some tactics recommended by Eisenhardt (1989) are mentioned above in Table 3.3. Miles and Huberman deal with the subject of research quality in their section on standards for the quality of conclusions (Miles and Huberman, 1994), distinguishing the following groups of standards:

- objectivity/confirmability;
- reliability/dependability/auditability;
- internal validity/credibility/authenticity;
- external validity/transferability/fittingness; and
- utilisation/application/action orientation.

Table 3. 4: Case Study tactics for four design tests (Source (Yin, 1989))

Tests	Case-study tactic	Phase of research in which tactic occurs
Construct validity	Use of multiple sources of evidence	Data collection
	Establish chain of evidence	Data collection
	Have key informants review draft case study report	Composition
Internal validity	Do pattern matching	Data analysis
	Do explanation building	Data analysis
	Do time-series analysis	Data analysis
External validity	Use replication logic in multiple case studies	Research design
Reliability	Use case study protocol	Data collection
	Develop case study database	Data collection

3.8 Research Methodology Adopted For This Doctoral Thesis

The following sections provides on how the researcher adopted the research methodology for this doctoral thesis. The Figure 3.5 below shows the research design adopted for this doctoral thesis.

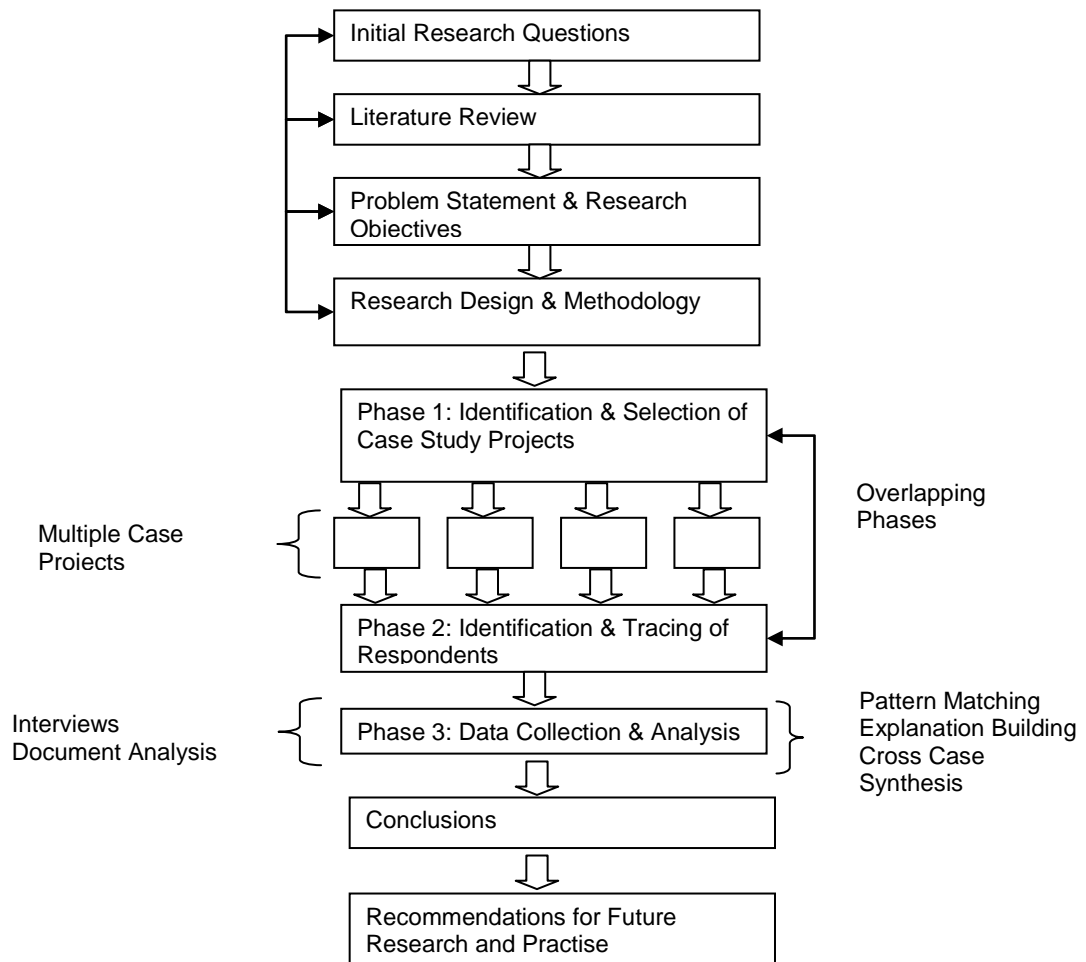


Figure 3. 5: Research Design Adopted

3.8.1 The Case Study Road Map

Patton and Applebaum (2003) provide a road map of how a case study needs to be conducted. They state that through the literature on case study research in general and the work of Eisenhardt (1989), Hamel (1993) and Stake (1995), in particular, a clear vision of what activities need to be undertaken in order to conduct a proper and useful case study emerges (Patton and Applebaum, 2003). The road map provided by Patton and Applebaum (2003) consists of the following points.

- Determine the Object of Study
- Select the Case
- Build initial theory through a literature review
- Collecting and organizing the data gathering

- Analysing the data and reaching conclusions

This roadmap has been modified and adopted to explain the research design and methodology that would be used in this doctoral thesis which is as follows:

3.8.1.1 The Object of the Study

The first crucial step is for the researcher to decide what topic the case will focus on (Patton and Applebaum, 2003). It is important for the object of study to be broadly defined so that the researcher will have room to manoeuvre and allow the case to lead him or her into new directions (*ibid*). However, it is important for the aims of the research to be outlined and tentative hypotheses to be constructed. (*ibid*)

The objective of this research was to provide a detailed explanation of the types of project procurement practices in Pakistan, the differences in these practices, and use this information to explain whether they impede or facilitate in successful delivery of projects. The focus of the study has been illustrated in Figure 1.1 in chapter 1 previously which is also reproduced as Figure 3.6 below.

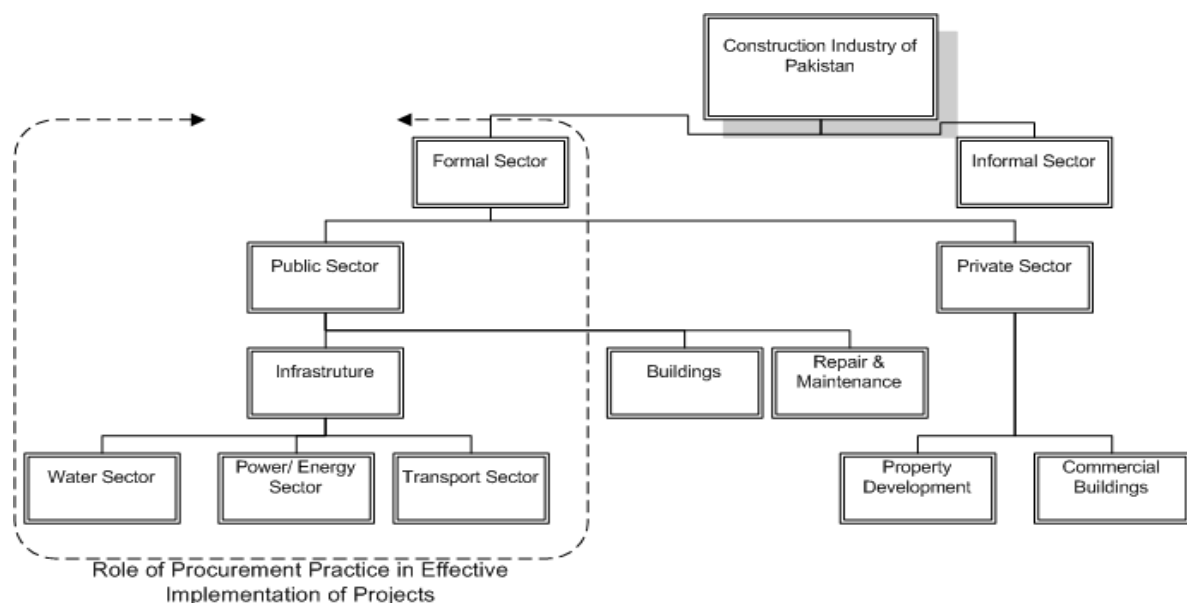


Figure 3. 6: Focus of the Study

The main arguments for choosing case studies for the research strategy are the descriptive nature of the research (not requiring control of events but rather documenting them) and the dominance of “how” (and exploratory “what”) questions. Although the research questions were reformulated by the researcher several times

during the literature review process but these arguments have remained valid throughout the study. The researcher aimed and desired to gain insight into the procurement of projects in Pakistan and the factors influencing the practice of procurement as well the perceived relationship of procurement to successful implementation of projects. The object of the study is depicted in Figure 3.7 below.

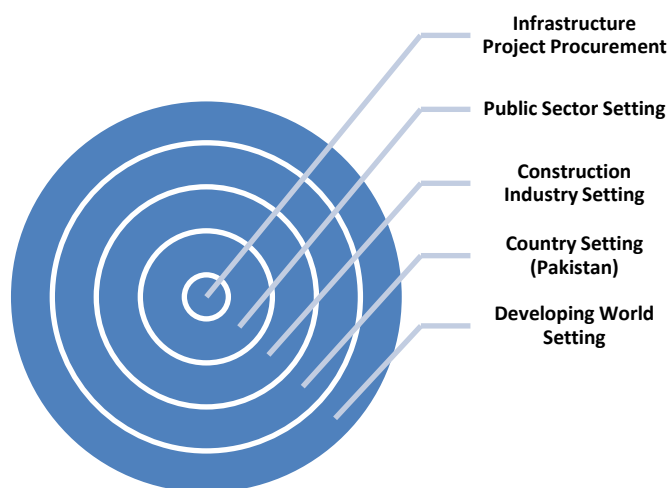


Figure 3. 7: Object of the Study

3.8.1.2 The Unit of Analysis

The unit of analysis is the basis for the case and for this study, it is the procurement of infrastructure projects in public sector in Pakistan and that is the boundary of this research. To reach this decision the researcher has used the strategy suggested by Baxter and Jack (2008) that is to question time again oneself with questions like do I want to analyse the individual? Do I want to analyse a programme? Do I want to analyse the process? Do I want to analyse the difference between different organisations and projects? Answering these questions along with discussing it with colleagues and supervisor was effective in delineating the cases and confining them to a boundary.

The next step after defining the unit of analysis and the boundary was to determine the type of case study. Yin (2003) categorises case studies as explanatory, exploratory, or descriptive (Baxter and Jack, 2008). He also differentiates between single, holistic case studies and multiple case studies. Stake (1995) identifies case studies as intrinsic, instrumental, or collective (Baxter and Jack, 2008). Multiple or collective case study

allow researchers to analyse within each setting and across setting. The aim and objectives of this research would be better addressed using multiple case studies. This has its advantages and disadvantages. The evidence created from this type of studies is considered robust and reliable but it can also be extremely time consuming and expensive to conduct (Baxter and Jack, 2008). For this research the researcher has chosen multiple case study design.

3.8.2 The Protocols and Field Procedures Used in this Research

To avoid being overwhelmed with mountains of data, instruments and protocols should be established for the collection of data (Patton and Applebaum, 2003). While data collection is a constant process of grasping good opportunities as well as setting structured plans for observing events, interviewing sources and reviewing documentation, it is important that the focus remain on the object of study (Patton and Applebaum, 2003). The following Figure 3.8 below shows the protocol and field procedures of data collection and analysis adopted in this research.

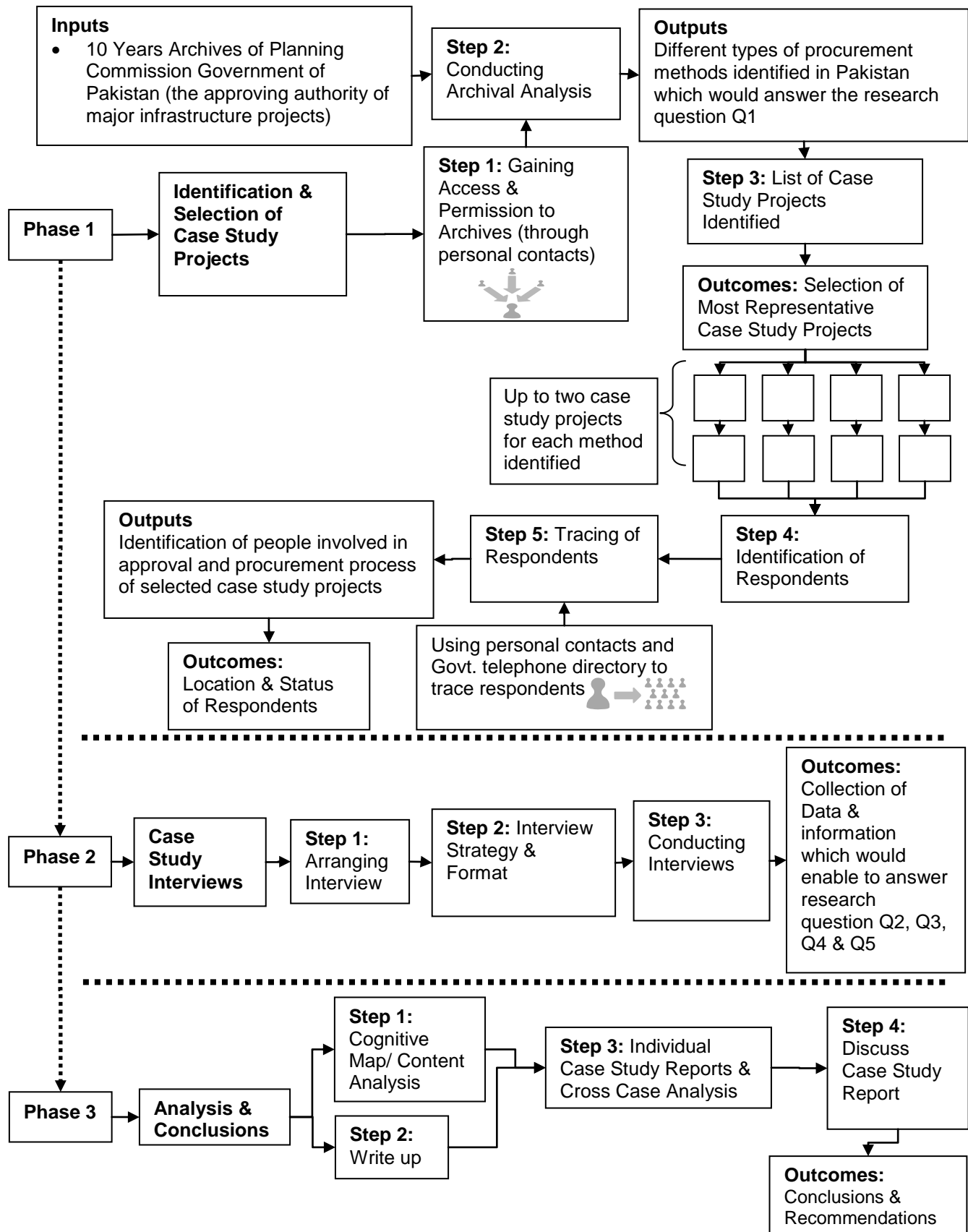


Figure 3. 8: Protocol & Field Procedures

3.8.2.1 Phase 1- Identification & Selection of Case Study Projects

- **Step1: Gaining Access and Formalising the Data Collection Process**

Personal contacts were used in gaining formal permission and access to the archives of Planning Commission Government of Pakistan which is the apex approving authority of all developmental projects in the country and is the first port of call in this research. For this purpose an introductory letter along with an overview of the research study and objectives along with a list of case study questions would be sent to the concerned official(s) for formal consent.

- **Step 2: Using Archival Analysis**

After gaining consent the archival analysis was carried out for the past 10 years of project documentation at Planning Commission Government of Pakistan. The aim of this exercise was to identify the different procurement methods adopted by the government on various projects. Once these methods were identified this enabled the researcher to investigate the first research question which is the different types of procurement practices in Pakistan. Majority of the documents that were analysed in this thesis were official documents, deposited in archives and/or published. Methodologically, these documents fulfil the 'authenticity' and 'credibility' criteria because they were official publications. Regarding 'representation' which is ensured by the fact the researches conducted an analysis of last 10 years documents. This reduced the risk of having incomplete records and ensured that the documents consulted were representative of the totality of the relevant documents. Regarding 'meaning' it was ensured by the fact that the researcher was a former employee of the concerned organisation and was involved in preparation and analysis of such documents.

Regarding how the archival analysis was conducted in this study the following is a brief description of the actual archival analysis that was carried out in the field.

- The researcher gained access to the organisation i.e. Planning Commission Government of Pakistan the apex approving authority of all major infrastructure projects across the country. Regarding gaining access this did not prove to be difficult, as the researcher had been a former employee of

the organisation but even then the researcher gained agreement and consent to access and use of material from the competent authority.

- After gaining access to the organisation, it was difficult and time-consuming to locate all the information the researcher needed, and the researcher had to go through a vast range of documents. For this purpose the researcher had decided to conduct the archival analysis of documents for the last 10 years. In the past 10 years i.e. from 1999-2009 there had been substantial economic activity in the country which resulted in approval of several infrastructure projects across the country. Another reason was that in past 10 years there has been realisation by the government that most of the infrastructure needs could not be met by the traditional procurement methods adopted since long in the country. This shift of the government primarily was driven by international funding/donor agencies which had resulted in projects being implemented under different procurement arrangements.
- After identification of different type of procurement methods in infrastructure projects in Pakistan a list of identified projects and their procurement method was made. This list helped in identification of representative case studies to be used in the study. All documentary material available about the projects identified as potential case studies were collected for further use in the study. This helped in recording and creation of a data set.

Regarding document analysis the researcher used documents such as project planning documents known as PC-1, feasibility reports known as PC-2, monthly progress reports known as PC-3 and completion report known as PC-4 where PC stands for Planning Commission. These documents are project templates which are required under the regulations of the government of Pakistan for approval of governmental projects. But the researcher did not limit himself to these documents alone the researchers also conducted analysis of documents such as the procurement and contract documents, procurement rules and guidelines and reports etc. produced by the Pakistan Procurement Regulatory Authority (PPRA), Pakistan Engineering Council (PEC), Planning Commission

and the international funding/donor agencies such as World Bank, Asian Development Bank etc.

The Public Procurement Regulatory Authority (PPRA) is an autonomous body endowed with the responsibility of prescribing regulations and procedures for public procurements by Federal Government owned public sector organisations with a view to improve governance, management, transparency, accountability and quality of public procurement of goods, works and services. It is also endowed with the responsibility of monitoring procurement by public sector agencies/organisations and has been delegated necessary powers under the Public Procurement Regulatory Authority Ordinance 2002. Pakistan Engineering Council is the statutory body which regulates the engineering profession in the country, Planning Commission of Pakistan which is a government institution in charge of managing the economy of the country in tandem with the Ministry of Finance. Its main function is to prepare five-year plans of economic and social development. The Public Sector Development Programmes (PSDPs), the approval of public sector projects and its progress monitoring also fall under domain of the commission.

- **Step 3: Identifying and Listing of Potential Case Study Projects**

A list of projects and methods identified along with their brief scope, objectives, cost, funding mechanism (whether entirely funded by the government, partial funding by government, foreign aid or loan component, private funding) and current status (i.e. whether the project is completed or stopped or is in the approval stage) and the concerned ministry or executing agency implementing the project was made. These included projects that have been completed or were in the process of completion or even at inception stage. This helped in selection of the case studies.

- **Outcomes: Selection of Case Studies**

Linking back to literature and research questions most representative case study projects were selected from this list a minimum of two projects for each method identified. The projects were also selected geographically to cover the whole country of Pakistan i.e. all the four provinces and two territories. In addition organisations were selected from public sector at both Federal and

Provincial levels and across all the three sectors of infrastructure as identified by public sector in Pakistan i.e. transport (covering roads, railway, bridges, tunnels, airports etc), water (dams, barrages, canals etc) and power (hydro and thermal power) sectors. A total of 6 public sector organisations were selected as organisational case studies and a total of 8 infrastructure projects were selected case study projects from within these 6 organisations were selected as project case studies. Table 3.5 below lists the organisational case studies and project case studies along with relevant details.

Table 3. 5: Case Study Selection

Organisation	Nature of Organisation	Number of Case Study Projects	Sector of Infrastructure	Geographic Location of Project	Procurement Type
1	Federal Level	2 (A & B)	Transport (Motorway Services area and Tunnel)	Khyber Pakhtoonkhwa and Baluchistan	Non-traditional (BOT)
2	Federal Level	2 (C & D)	Power (Hydropower and Thermal Power)	State of Azad & Jammu Kashmir and Punjab	Non-Traditional (BOOT & BOO)
3	Provincial Level	1 (E)	Transport (Road and Bridges)	Khyber Pakhtoonkhwa	Traditional Method
4	Federal Level	1 (F)	Water (Dam)	FATA	Traditional Method
5	Federal Level	1 (G)	Transport (Railway)	Sindh	Non-Traditional (BOT)
6	Federal Level	1 (H)	Transport (Airport)	Punjab	Non-traditional (BOO)

• **Step 4: Identification of Potentially Valuable Respondents**

The idea here was to identify people who have been involved in the project approval stage, planning stage and the people who were involved in the procurement process including management and implementation. In the first round they were identified preliminarily through archival document analysis. In the second round depending upon the project circumstances such as the executing agency and mechanism of funding the potential respondents were identified depending upon their role in the procurement of the case study project. An example of this two round process is shown in the following diagram.

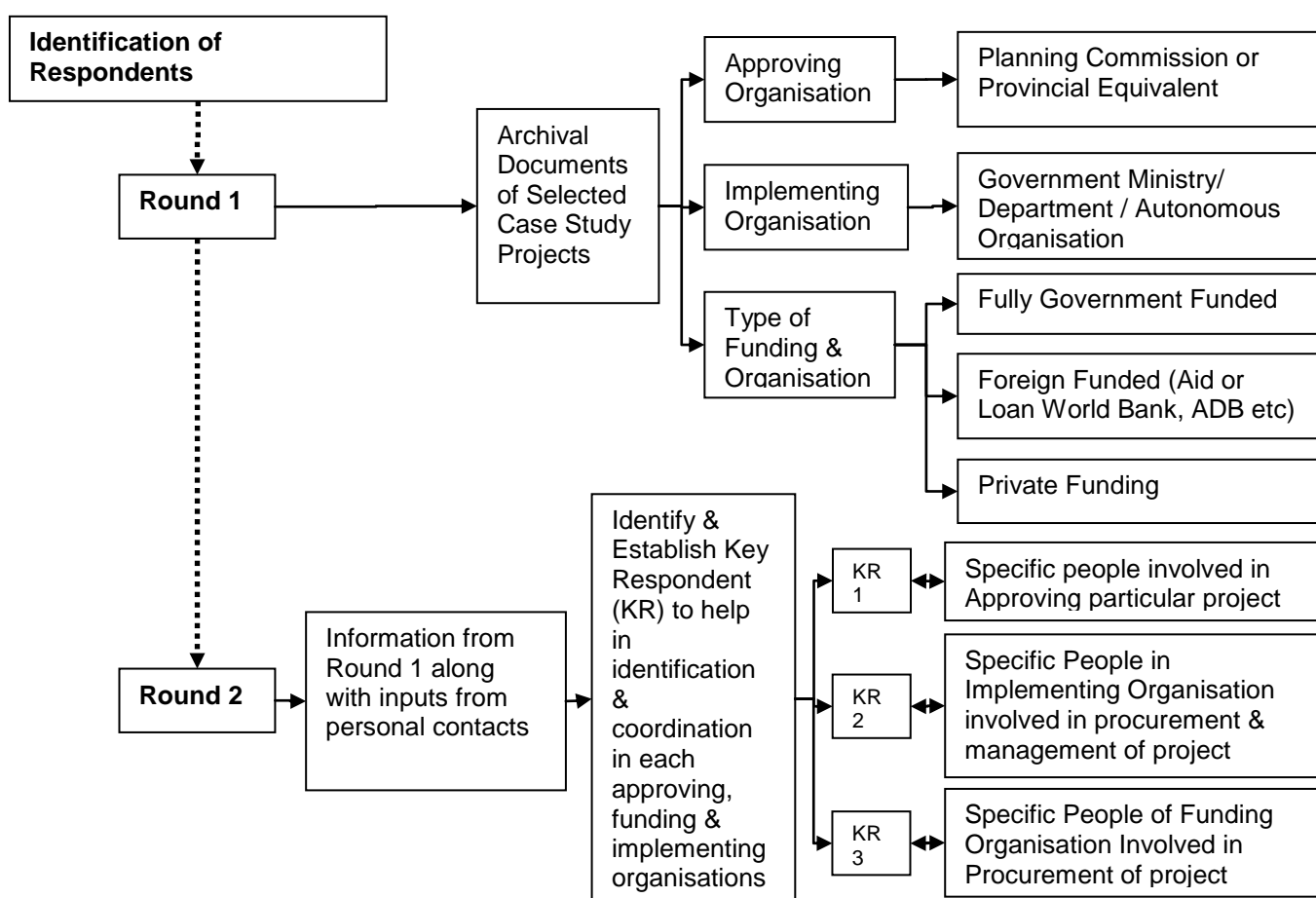


Figure 3. 9: Two Round (Round 1 & Round 2) Process for Identification of Respondents

- **Identification of the Key Respondent (KR):** Was the identification of people in each organisation/project in a position of helping the researcher by providing documentation and assisting the researcher in within-case sampling. The

process of identification of key respondent (KR) was done mostly through the researcher's personal contacts but was not limited to this only.

- **Step 5: Tracing of Identified Respondents**

Personal contacts, government telephone directory and other information were used to trace the identified respondents.

- **Outcomes:**

When the status and location of potential respondents was confirmed the interview stage commenced.

3.8.2.2 Phase 2- Case Study Interviews

- **Step 1: Arranging Interviews**

After identification of contact persons and selection of suitable case study the next step was to formalise the data collection process by gaining approval of the concerned official(s) and organisation(s). For this purpose an introductory letter along with an overview of the research study and list of case study questions was sent to the concerned official(s) for formal consent. The researcher used a key contact and sponsor with whom the researcher agreed the conditions of the research. The researcher approached them with the standard introductory letter (contained in Appendix A at the end of this thesis). In addition to making these arrangements it also seems like a good idea to meet them get some background on the organisation and the people that the researcher was interviewing. This was done at the same meeting. The initial meeting with the sponsors covered the following points:

- **Administration**

- Timescales
- Access to:
 1. People (who and how to contact)
 2. Facilities (where interviews will be carried out)
 3. Documentation

- **Confidentiality**

Throughout the research confidentiality has been maintained both with the case study organisations and the individuals participating in the interview. It was therefore important that the sponsors and all others were ensured of this fact at the outset by this researcher. The researcher has ensured that the data gathered from any individual person or the organisation will not be used in any way in any research report or publication that may incriminate or identify them as an organisation or an individual.

- **Step 2: Interview Strategy & Format**

It was important to interview a balanced mix of people to ensure that all important aspects of procurement were covered. Although the following list only provides guidelines on who the researcher interviewed, but the size of the organisation had an impact on how many people were needed to be interviewed the aim was to interview respondents who can add value to this research. For the purpose of ensuring respondents anonymity the exact designation of the respondent has been replaced by the researchers own designations which are as follows:

- Senior Procurement Executive (used in this research for public sector officers of Basic Pay Scale (BPS) 20 and above)
- Procurement Executive (used in this research for public sector officers of BPS 17 to BPS 19)
- Project Manager (used in this research for officers hired or transferred for managing project at a senior level)
- Contractor's Executive (used in this research for senior level employees responsible for procurement from contractors side)

Interview Format: Linking back to literature and questions the inverted funnel format was used starting with narrow closed questions and build to ask broader open questions. The aim was to have an interview with an open character (short questions, long answers, let the participants tell their own story, use their own words). The aim was to extract as much as data as was possible from the

respondents and intervention was only made to steer the respondent back to the questions and stop the discussion from drifting far from the topic.

- **Step 3: Conducting interviews**

Interviews were tape recorded and afterwards transcribed and checked by interviewee. In conducting the interviews the researcher kept the following points in mind:

- 1 interview per day was used and was a good guide, the interview was usually one and half hour long.
- This researcher allocated about 2 hours per interview to allow some time just to chat. And when the researcher felt that more time was needed the researcher arranged to see the interviewee again for a follow up interview which happened in very limited circumstances.
- Interviewees were contacted before they were due to interview either to arrange interview times or if this has been done for then to check if they were expecting the researcher and were available. The researcher also let them know who the researcher is and what he is doing.

- **Outcomes:**

This resulted in collection of data and information which enabled the researcher to respond to research questions i.e.

- Q2. What are the major issues that affect the procurement practice in Pakistan?
- Q3. What are the barriers to effective implementation of these procurement systems?
- Q4. How procurement practices are perceived to deliver successful project outcomes?
- Q5. What challenges does a developing country like Pakistan face while adopting modern procurement methods and systems? How enabled is the environment to accept new and innovative forms of procurement?

A total of 24 respondents were interviewed from 6 public sector organisations. The following Table 3.6 provides the demographic information about the respondents that were interviewed during this research.

Table 3. 6: Respondent Demographic Information

Organisation	Number of Respondents	Respondents Roles	Experience in Years
1	4	Senior Procurement Executive (1) Procurement Executive (1) Project Manager (1) Contractor's Executive (1)	22 10 20 21
2	5	Senior Procurement Executive (1) Procurement Executive (1) Project Manager (2) Contractor's Executive (1)	20 15 21 and 19 22
3	5	Senior Procurement Executive (2) Procurement Executive (1) Project Manager (1) Contractor's Executive (1)	25 and 27 17 30 28
4	4	Senior Procurement Executive (1) Procurement Executive (1) Project Manager (1) Contractor's Executive (1)	23 16 25 21
5	4	Senior Procurement Executive (2) Procurement Executive (2)	21 and 20 17 and 11
6	2	Senior Procurement Executive (1) Project Manager (1)	22 32

3.8.2.3 Phase 3- Analysing the Data and Reaching Conclusions

- **Step 1: Cognitive Map**

Morse (1994) has summarised the cognitive processes that is involved in qualitative research. Based on Morse (1994) the researcher carried out the cognitive mapping process of the data collected by conducting the following procedures with a view to link back each step with the research questions and literature.

- **comprehending** the phenomenon under study
- **synthesising** a portrait of the phenomenon that accounts for relations and linkages within its aspects
- **theorising** about how and why these relations appear as they do, and

- **recontextualising**, or putting the new knowledge about phenomena and relations back into the context of how others have articulated the evolving knowledge.

To aid this process the researcher used qualitative data analysis technique called content analysis. Patton (2002) defines content analysis as “any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings”. In content analysis the researcher decides in advance what is being looked for and measured through the qualitative research, and then develops the framework of accessing the content of the data (Miles and Huberman, 1994). In content analysis the text is coded or broken down into manageable categories on a variety of levels which can be words, phrases, sentences, or themes and are then examined and analysed (Miles and Huberman, 1994). In this doctoral study the technique of content analysis as depicted by Miler and Huberman (1994) was adopted to analyse the case study data. This was done by first coding the individual transcript data into sentences and themes followed by categorizing data based on these themes and finally summarizing all individual data to present each case study.

These set of steps helped to depict a series of intellectual processes by which data in their raw form was considered, examined, and reformulated to become the research product. The example of content analysis carried out in this research is depicted in following Table 3.7 which has been adapted from organisational case study 2 in this research.

Table 3. 7: Example of Content Analysis

Codes	Respondents Reporting					Categories	Themes
	1	2	3	4	5		
Need for Efficiency and Finances	✓	✓	✓	✓	✓	Issues in Procurement Selection/ Choice	Procurement Choice
Proposal and bid evaluation procedures	✓	✓	✓	✓	✓		
Delays in attracting interest	✓	✓	✓	✓	✓		
Delays in approvals	✓	✓	✓	✓	✓		
Risk and Contract Management <ul style="list-style-type: none"> • Financial Institutions 	✓	✓	✓	✓	✓	Issues in Procurement Implementation	Procurement Implementation

reservations about risks							
Principles of Procurement <ul style="list-style-type: none"> • Value for Money • Transparency • Competition • Accountability 	✓	✓	✓	✓	✓		
Political <ul style="list-style-type: none"> • Political Interference • Political Pressures 	✓	✓	✓	✓	✓		
Accessibility to finances	✓	✓	✓	✓	✓		
Organisational Issues <ul style="list-style-type: none"> • Bureaucratic Procedures • Maturity and development of the organisation 	✓	✓	✓	✓	✓		
Culture <ul style="list-style-type: none"> • Initially culture was quite hostile 	✓	✓	✓	✓	✓		
Lack of Understanding of PPP <ul style="list-style-type: none"> • Lack of Understanding of Roles of Parties Involved 	✓	-	✓	✓	✓		
Regulatory and Legal <ul style="list-style-type: none"> • Plethora of statutory consents • Laws not in concurrence with policy • Weak Regulatory Framework 	✓	✓	-	✓	✓		Impact of Procurement on Successful Project Outcomes

At this point one might suggest why the use of computer aided software such as Nvivo etc has not been carried out. The position that this researcher has taken regarding it is that in order for the researcher to be fully immersed in the data and to develop an understanding and appreciation of qualitative techniques it was best not to use the software at present. Although it could have avoided precious time being spent on doing the process manually but researcher has gained first hand learning, understanding, experience and appreciation of qualitative research methods by not using the software at present. The researcher also intends to learn and use the computer aided tools and software later in the career of the researcher.

- **Step 2: Write Up**

The write up stage and the cognitive mapping process lapped in many instances. Yin according to Baxter and Jack (2008) describes five techniques for analysis which are pattern matching, linking data to propositions, explanation building, time-series analysis, logic models and cross case synthesis. The same has been followed during the write up stage key documents, notes and narratives etc. were used in context description, conducting pattern matching, linking data to questions, explanation building and cross case synthesis. The qualitative data collected is usually presented through visual methods as it is perceived that the data is best presented using these techniques and as the adage goes “a picture is worth a thousand words”. The researcher has used tables, charts and graphs and figures to present the findings. Also during the write up phase the researcher kept on creating links back to literature and questions. The researcher ensured that the data was converged in an attempt to understand the overall case, not just the various parts of the case or just the contributing factors that influence the case. The researcher found credible answers to research questions 2 to 5 during this stage. Triangulation was also carried out during this stage. This research addressed credibility by undertaking a systematic approach to data collection and analysis as well as employing various approaches to triangulation. In this research both data in the form of interviews and data in the form of archival document analysis were undertaken. Whilst some documentary analysis was undertaken the primary data being used was interview transcript and data. The researcher further used triangulation of data by having multiple respondents from within cases approximately 4-5 interviewees for each case study organisation. Woodside and Wilson (2003) suggests that using multiple respondents enable triangulation of responses for confirming and deepening the understanding of the information gathered following their footsteps the researcher interviewed multiple respondents from 6 of the chosen case organisations to enable triangulation and also confirm responses and deepen the understanding of information collected. Both the researcher’s senior and second supervisors also audited the data analysis approach and reviewed the individual case study reports along with the cross case analysis and comparisons which further strengthened this research.

- **Step 3: Individual Case Study Reports & Cross Case Analysis**

Both the cognitive mapping process and the write up in conjunction with each other produced the final individual case report. The goal of this research was to describe the study in such a comprehensive manner as to enable the reader to feel as if they had been an active participant in the research and can determine whether or not the study findings can be applied to their own situation. With each individual case report ready the next step was to do a cross cases analysis of the case studies. The cross case analysis was primarily based on two tactics firstly to select categories and look for within-group similarities and differences based on similar method of procurement. Secondly to list similarities and differences among all of the case studies identified. The aim here was to efficiently portray the big picture of procurement practise and enable the comparison of different cases which would not have been possible otherwise.

- **Step 4: Discussion**

Discussion of findings in light of the literature on the subject and with both the researcher's supervisors and colleagues was an essential part of this research and enhanced its validity, quality and credibility. Plus it helped in identifying links which the researcher missed out during initial assessment. From their feedback a better quality report was produced.

- **Outcomes: Conclusion**

The outcomes of all the four phases capitulated in the explanation of all the main five research questions and resulted in conclusions and recommendations for further research.

3.9 Ensuring Validity and Reliability of Research Methodology Adopted

The researcher aimed to incorporate all four tests identified by Yin (1989) in section 3.6.2 above i.e. construct validity, internal validity, external validity and reliability into the research study as follows:

- **Construct Validity:**

The researcher engaged in a systematic process of establishing construct validity during the data collection process by using multiple sources of data and

evidence as well as establishing a chain of evidence. Construct validity was also ensured during write up composition stage of the case study by asking supervisors to review a draft case study report.

- **Internal Validity:**

The internal validity was ensured by conducting pattern matching and explanation building during the data analysis.

- **Reliability:**

Reliability was ensured by using and adhering to the case study protocol during the research.

- **External Validity:**

External validity was ensured by using replication logic in multiple case studies in the research design phase, individual case study reports and cross case analysis.

3.10 Ethical Issues

Miles and Huberman (1994) suggest some dimensions of early “contracting” with participants which partly deals with research management issues, but is also very important in terms of research ethics (de Weerd-Nederhof, 2001).

The questions for agreement with research study participants included the following:

1. How much time and effort will be involved?
2. What kind of data collection is involved?
3. Is participation voluntary?
4. Will material from participants be treated confidentially?
5. Will participants’ anonymity be maintained?
6. Will participants review and critique interim and final products?

Miles and Huberman (1994) devote a whole chapter to ethical issues in analysis, which should be wisely taken into account before even starting the actual data collection (de Weerd-Nederhof, 2001). Specific ethical issues they mention include: worthiness of the project; competence boundaries; informed consent; benefits, costs and reciprocity; harm and risk; honesty and trust; privacy, confidentiality and anonymity; interventions and advocacy; research integrity and quality; ownership of data and conclusions; use

and misuse of results; and conflicts, dilemmas and trade-offs. In their summary they state that dealing with ethical issues “effectively involves heightened awareness, negotiation, and making trade-offs among ethical dilemmas, rather than the application of rules” (Miles and Huberman, 1994).

To this researcher it was of paramount importance guaranteeing of people’s anonymity, which was crucial and was adhered to at all times. The researcher ensured the conformance of this research in accordance to RMIT University’s ethical code of practice in research. The researcher applied through RMIT University’s research ethics committee for the formal approval of the research project. And during the whole process of this research the ethical standards of doing the research were strictly followed. It was assured to all the respondents who took part in the research that their privacy was and will be kept intact at all times during and after the research. Consent was sought from the applicants on the consent form provided in the RMIT ethics committee before the start of the interview for the respondents’ willingness to participate in the research project and willingness to be tape recorded. A copy of the consent form was also given to the participants for their personal records and with the option to withdraw from this research at any time at their own discretion.

3.11 Summary

The research methodology and design that was used to carry out this research was based on the objectives of the doctoral study. The first objective was to identify the different types of procurement practices in Pakistan for this purpose the choice of methodology was archival analysis. The analysis of archival records helped to describe the incidence and prevalence of the phenomenon under investigation i.e. ‘procurement practices’. The second and third objectives were to identify and investigate the major issues that affect procurement practice and perception of procurement practice to deliver successful project outcomes which was investigated by case study research method. The remaining two objectives of the research that is identification of barriers to effective implementation of procurement systems and identification of the challenges Pakistan face and conduciveness of the environment to adopting modern procurement methods and systems was achieved by combination of case study and archival analysis. The instruments chosen were interviews and document analysis as the research questions posed were more concerned on the depth and not the breadth of the investigation. Triangulation was conducted as the researcher was using more than

one research method to investigate the same problem in order to increase the validity of the study.

Chapter 4

Archival Analysis

This chapter presents the results of archival analysis of government documents, reports including reports by international organisations, policy documents and literature conducted during this research. The chapter starts by describing the regulating environment and the legal and institutional arrangement of infrastructure procurement in public sector in Pakistan. It also explains the framework and mechanics for project approval and procurement methods in Pakistan. At the end of the chapter a discussion and analysis has been provided regarding the process of procurement and the institutions involved.

4.1 Public Procurement Methods and Project Approval Processes in Pakistan

The following sections provide the description of the procurement and approval process in Pakistan along with the legal and institutional structures involved.

4.1.1 Legal and Institutional Structure in Pakistan

Pakistan being a federal state has different procurement regulations that apply at the national level and within each of the four provinces and two territories (ADB-OECD, 2006). According to the report ADB-OECD (2006) the procurement system at the national level was revamped in 2002, this reform culminated in the passing of the Public Procurement Regulatory Authority Ordinance 2002 and the Public Procurement Rules 2004 (PPR 2004), the latter being inspired by the United Nations Commission on International Trade Law (UNCITRAL) model law. Furthermore the report states that PPR 2004 applies to all procurement by all procuring agencies of the federal and provincial governments. The Public Procurement Regulatory Authority (PPRA) is, however, entitled to exempt the procurement of any object or class of objects from the application of the rules or any other law regulating public procurement. (ADB-OECD, 2006)

The principal legislation in force for regulation of public procurement in Pakistan is the Public Procurement Regulatory Authority (PPRA) Ordinance 2002 (ADB,

2007). Public Procurement Regulatory Authority (PPRA), has been constituted through an Act of Parliament of Pakistan in 2004 (ADB, 2007; World Bank, 2007 and Shah et al., 2008). The Public Procurement Regulatory Authority is an autonomous body endowed with the responsibility of prescribing regulations and procedures for public procurements by Federal Government owned public sector organizations with a view to improve governance, management, transparency, accountability and quality of public procurement of goods, works and services (PPRA, 2010). It is also endowed with the responsibility of monitoring procurement by public sector agencies/organizations and has been delegated necessary powers under the Public Procurement Regulatory Authority Ordinance 2002 (PPRA, 2010).

The federal government of Pakistan through PPRA has issued procurement rules with legal and constitutional cover for all procurements (World Bank, 2007). The PPRA rules provide an over arching framework for procurement of goods and services, specifically, for consulting services, these can follow the rules and guidelines provided by the donor agencies or the present Pakistan Engineering Council (PEC) rules, depending upon their application (World Bank, 2007). Pakistan Engineering Council is the statutory body which regulates the engineering profession in the country. The major objective of PPRA-2004 rules is to ensure transparent and cost effective procurement of quality goods and services in the public sector (Shah et al., 2008). The rules provide various procurement options, which can be applied to the construction and infrastructure projects. (Shah et al., 2008)

The PPRA which is a 'skeleton law' along with the Public Procurement Rules, 2004 (PPR), focuses on, and is limited to, transparency and accountability of procurement (ADB, 2007). The PPRA, being a Federal law, applies only to procurement by Federal entities that include corporations utilizing public funds for procurement (ADB, 2007). On the whole the PPRA and the PPR cover conventional procurement only (ADB, 2007).

4.1.2 Project Approval Processes of Traditional Procurement in Pakistan

The Planning Commission of Pakistan is responsible for the development of appropriate cost and physical standards for the effective technical and economic appraisal of the projects (Tahir, 2005). Before the projects are sanctioned by the relevant project approving forums, their technical appraisal is carried out by the concerned technical sections of the Planning Commission (Tahir, 2005). This includes the engineering, commercial, governance, environmental and managerial aspects (*ibid*). Economic Appraisal Section analyzes the projects from economic, financial and social viewpoints (*ibid*).

Projects and programs to be included in the Public Sector Development Program (PSDP) require approval of competent forums (Tahir, 2005). Each Province has a Provincial Development Working Party (PDWP) which is headed by the Chairman, Development Board/Additional Chief Secretary and includes Secretaries of the Provincial Departments concerned with development (Tahir, 2005). The PDWP scrutinizes and approves schemes costing up to Rs.200 million, with foreign exchange cost of less than 25 percent (Tahir, 2005). Any scheme involving 100 percent self-finance by the provincial government can be approved by the PDWP for up to Rs.1 billion (*ibid*). Departmental Development Working Party (DDWP) is the forum for approving projects/programs for Federal Ministries/Divisions/Departments costing upto Rs.40 million (*ibid*). It is headed by the respective Secretary/Head of Department and includes representatives of the Finance Division and Planning Commission (*ibid*). Projects costing between Rs.40 million and Rs.500 million prepared by the Federal Ministries, Provincial Governments, Autonomous Organizations, etc., are scrutinized for the purpose of approval by the Central Development Working Party (CDWP) which is headed by the Deputy Chairman, Planning Commission and includes as its members the Secretaries of the Federal Ministries concerned with development and the heads of the Planning Departments of the Provincial Governments (*ibid*). Projects and Schemes with foreign funding of 25 % and above have also to come to CDWP (*ibid*). The Concept Clearance Committee (CCC), which has the same composition and meets concurrently with the CDWP, allows negotiations with foreign donors before the project is ready for approval (*ibid*). But a project contract is only signed once it is approved by the

CDWP for ensuring the availability of local/counterpart funds (*ibid*). The schemes cleared by the CDWP costing more than Rs.500 million are submitted to the ECNEC for final approval (*ibid*). Executive Committee of National Economic Council (ECNEC) is the highest body for the approval of projects and schemes (*ibid*). Projects and programs costing Rs.500 million and above are approved by the ECNEC. It is headed by the Prime Minister/Finance Minister and has representation from all development and economic Ministries and Provinces at the Minister level (*ibid*). Even more significant projects (entailing policy choices or involving multiple Ministries) are approved at the level of the Economic Coordination Committee of the Cabinet (ECC) (ADB, 2007). Figure 4.1 below diagrammatically explains the project approval process and forums.

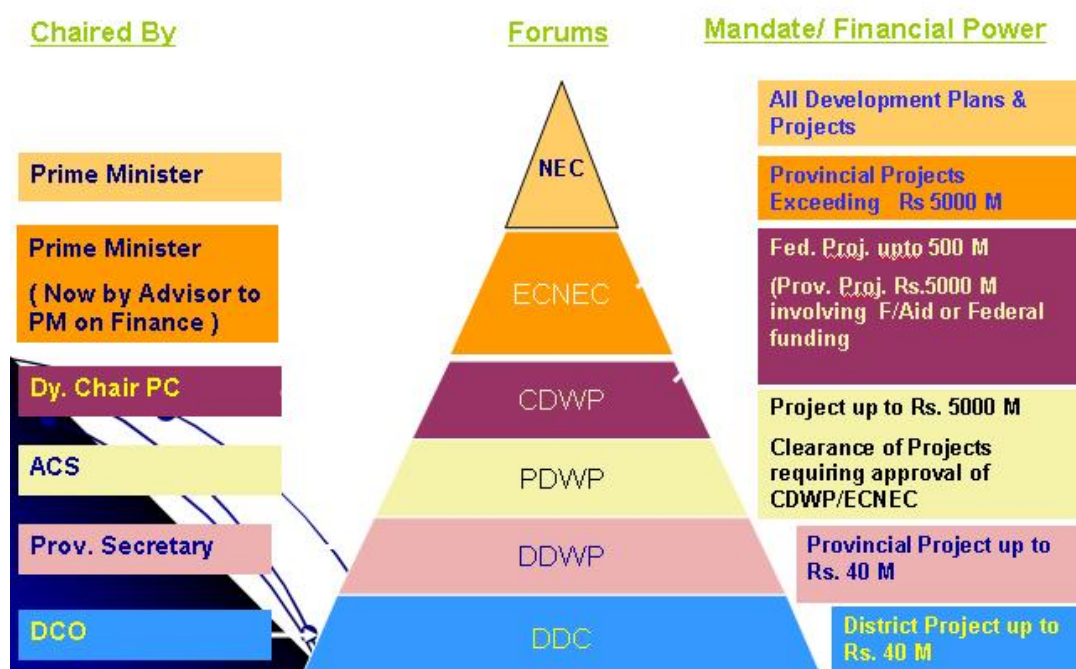


Figure 4. 1: Project Approval Process and Forums in Pakistan (Source Government of Khyber Pakhtoonkhwa, 2010)

4.1.3 Project Approval Processes of Non-Traditional Procurement in Pakistan

4.1.3.1 Background

Regarding the approval of projects involving other procurement arrangements the mechanisms for approval of such projects did not exist initially. In the early 1990's, Pakistan established a policy and regulatory framework for Public Private Partnership (PPP) in the telecom and energy sectors, sectors which have seen great advances. The

framework for PPP infrastructure service procurement in other sectors such as transport and logistics, water supply, sanitation, solid waste management, social sectors, and real estate was developed in the early 2000's and the policy framework was passed by the Ministry of Finance and subsequently by Economic Coordination Committee (ECC) in November 2007.

Recently the Government has introduced in its various quarters the concept of public private partnerships since it was a new concept for the government the procedure for approval of the project under this programme did not exist till 2009 (Planning Commission, 2009). The Planning Commission has approved a procedure, proposed by the Ministry of Industries and Production to process/approve the Projects under Private/Public Partnership (Planning Commission, 2009). With the assistance of the Asian Development Bank, the Government of Pakistan has structured a PPP program that includes;

1. "Establishment of a PPP Task Force that is chaired by the Advisor to the Prime Minister on Finance and includes all key stakeholders. The purpose of the Task Force is to formulate a policy, regulatory and legislative structure that is conducive to creating a PPP market in Pakistan;
2. Establishment of the Infrastructure Project Development Facility (IPDF) that serves as the Secretariat to the Task Force, provides 'hands-on' technical assistance to implementing agencies at all tiers of government, builds their implementation capacity, and provides inputs financing, guarantees, subsidies etc.; and
3. Formulating a business plan to establish the Infrastructure Project Financing Facility (IPFF) to provide 'residual' long term fixed rate local currency financing". (IPDF, 2009)

4.1.3.2 Institutional Arrangement

The Government of Pakistan has established institutional arrangements for the successful implementation of PPP programme (IPDF, 2010). The following institutions play key roles in these arrangements:

Ministry of Finance (MoF)

The Ministry of Finance is spearheading the development of PPP and responsible for developing the legal, institutional, regulatory framework and an implementation program at the federal level and building ownership at the highest level in the government for the PPP program. The MoF is responsible for PPP Policy and Support to Implementation, taking financial commitments by GoP to support PPP and for risk management. (IPDF, 2010)

Planning Commission

The Planning Commission reviews and approves Public Sector Development Program (PSDP), screens and proposes potential PPP projects from the PSDP. This is in consultation and coordination with the IPDF, and the line ministries and other Contracting Authorities. (IPDF, 2010)

Government Contracting Authorities

Line Ministries, Federal bodies and provincial and local authorities as well as State Owned Enterprises (SOEs) are the contracting parties on behalf of GOP with private parties. They alone or in conjunction with other bodies are mainly responsible for the identification, selection, sponsorship, preparation, tendering and monitoring of PPP projects in their respective sectors. The line ministries that want to promote PPPs have to prepare Model Concession Agreements for that particular sector. Regarding Contracting Authorities need to developing capability in PPP development, for this strong support is available especially from IPDF and other institutions such as MoF and the Planning Commission in public sector in Pakistan. (IPDF, 2010)

Task Force

The Task Force (TF) that is headed by the Minister of Finance, comprises senior officials from relevant Ministries and provincial governments is responsible for advising on overall PPP policy reforms guiding and approving respective legislative documents. The TF is aided by Working Groups tasked to focus on specific topics of that policy and formulate the required PPP framework. The TF is also supported by the IPDF which acts as a secretariat for the TF which in parallel fulfils other functions and responsibilities which are also explained in the following paragraphs. The recommendations of the Task Force in parallel with the operations of IPDF are to steer the future development of the PPP framework in Pakistan. (IPDF, 2010)

Infrastructure Project Development Facility (IPDF)

The Government has set up the IPDF under the MoF with Board of Directors, headed by the Minister of Finance. IPDF is tasked to provide easy and timely access for Institutions, to ensure that viable good quality PPP deals are concluded in a timely manner. (IPDF, 2010)

The IPDF has the following responsibilities:

- To help facilitate the promotion, generation and implementation of PPP projects by the contracting authorities, in order to increase the number and volume of PPP infrastructure transactions.
- To provide guidelines to public sector implementation agencies, private sector sponsors, financiers and advisors; in order to create an enabling policy environment and provide hands on knowledge transfer to the Public implementing agencies. The GOP disseminates information and Guidelines on PPP through the IPDF website 'www.ipdf.gov.pk'.
- To screen projects proposed by the contracting authorities and to propose them for PPP route to MoF, Planning Commission and the CDWP.
- To either procure or provide itself, professional PPP services for contracting institutions to improve proposals, without itself becoming a contract signatory to those transactions.
- To serve as a secretariat to the PPP Task Force.

4.1.3.3 The Approval Process of Non-Traditional Procurement

Regarding non-traditional procurement of projects and their approval they are classified as solicited projects and un-solicited projects. Solicited projects are those projects that are recommended by the government ministries/ organizations to be procured using non-traditional methods such as PPP. Its approval follow the process explained below.

- i. Approval of Project (Preparation Stage): Projects are screened, reviewed and evaluated by the appropriate public institutions
 - a. Planning Commission to ensure consistency with GoP infrastructure policy /strategy
 - b. Line Ministry or [Province] as contracting authority
 - c. Ministry of Finance if public financial obligations are involved.
 - d. The IPDF assess the potential for a project to be a PPP and make its recommendations to the Planning Commission / MoF and the concerned Line Ministry
- ii. Approval of Project Structuring and draft concession contract before tendering.
- iii. Approval of any final public financial commitments by MoF.
- iv. Approval of the award of the PPP concession to the successful bidder by the Contracting Authority. The above Approval Authority includes interrelated processes: These are clear and unambiguous processes in order to support competition, transparency and the best possible PPP transactions. Consultation and market sounding, within the public sector and private sector respectively are essential components of the PPP process.

The approval process is described diagrammatically in figure 4.2 below.

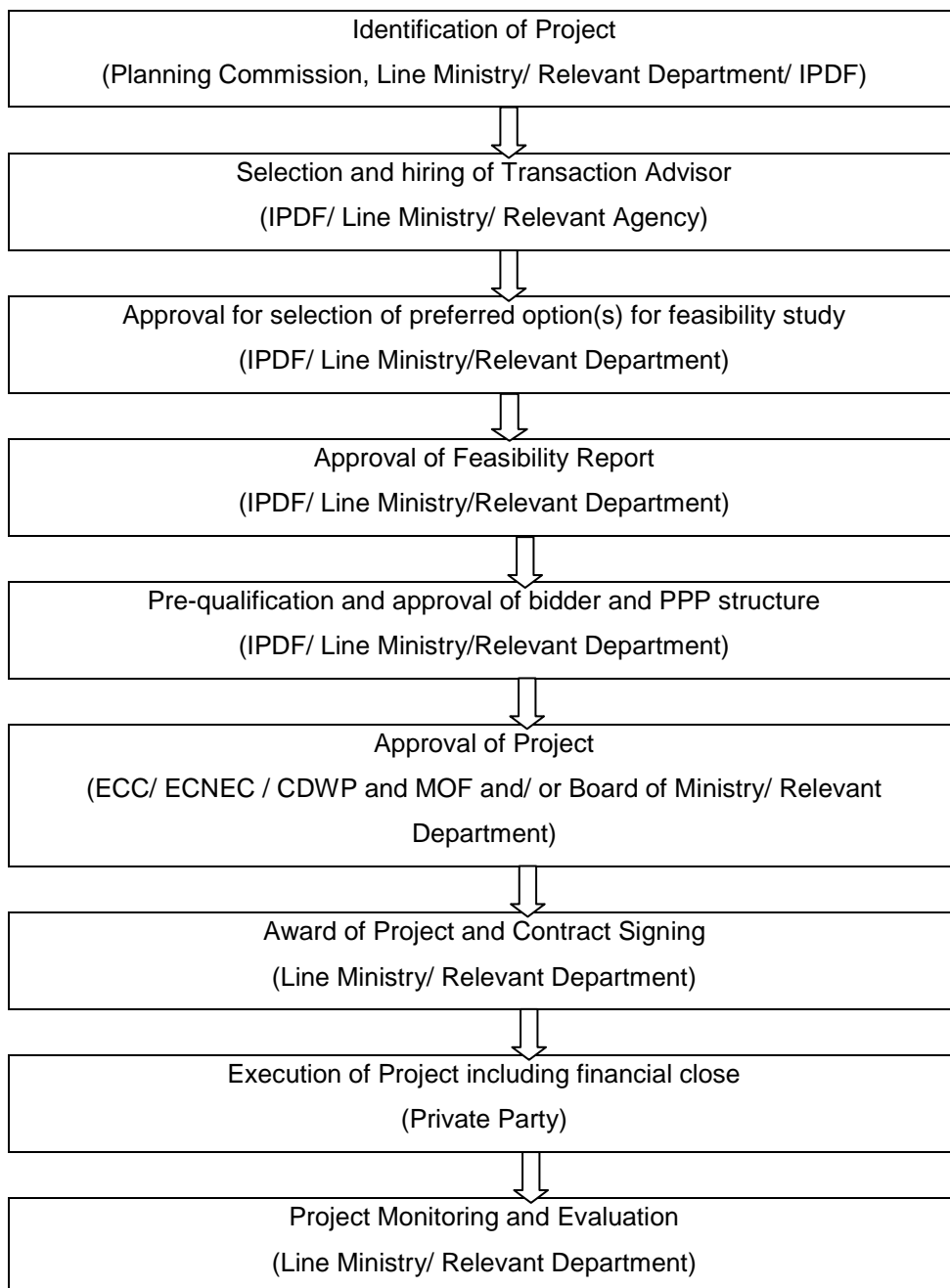


Figure 4. 2: Project Approval Process for Solicited Proposals (IPDF, 2010)

The process above refers to solicited PPP projects. These are projects selected by the government (Federal/Provincial/Local) mainly from their priority public sector development programmes (PSDP) for PPP implementation through the steps described above. Solicited projects are initiated by public institutions and represent the government's priority programmes. (IPDF, 2010)

Unsolicited projects, by contrast, are proposed by the private sector to government as being worthy of consideration as a PPP project. Such projects come almost exclusively from outside the above mentioned programs (IPDF, 2010).

It is the Government's intention, in the early years of its PPP programme, to proceed cautiously on unsolicited proposals. All unsolicited proposals are treated on a case-by-case basis and limited to projects that demonstrate genuine and substantial innovation and are supportive of public policy. (IPDF, 2010)

Government's policy on unsolicited proposals aims to balance its desire to stimulate innovation and to create new opportunities for the private sector, with the need to ensure that the Government and consumers get value for money in PPP transactions. However, there is the additional consideration that such unsolicited projects may edge out higher priority solicited projects.

The process for unsolicited proposals is as follows;

1. Private sector identifies a potential project
2. Private sector seeks guidance from GoP of the framework for Unsolicited Bids and discusses this project and especially that the project study must conform to (to be) Issued Guidelines, be of public merit and that the Government has no objection in principle.
3. Private Sector prepares its own Feasibility Study at own cost and risk
4. Private sector submits study and proposal to GoP
5. GoP appraises project and;
 - Accepts project in principle and processes, or
 - Requires more information on, or changes to, the Project, or
 - Rejects Bid outright due to major non compliance with original concept.

6. GoP proceeds or not, according to its rules and regulations. (IPDF, 2010)

The above is explained diagrammatically in figure 4.3 below.

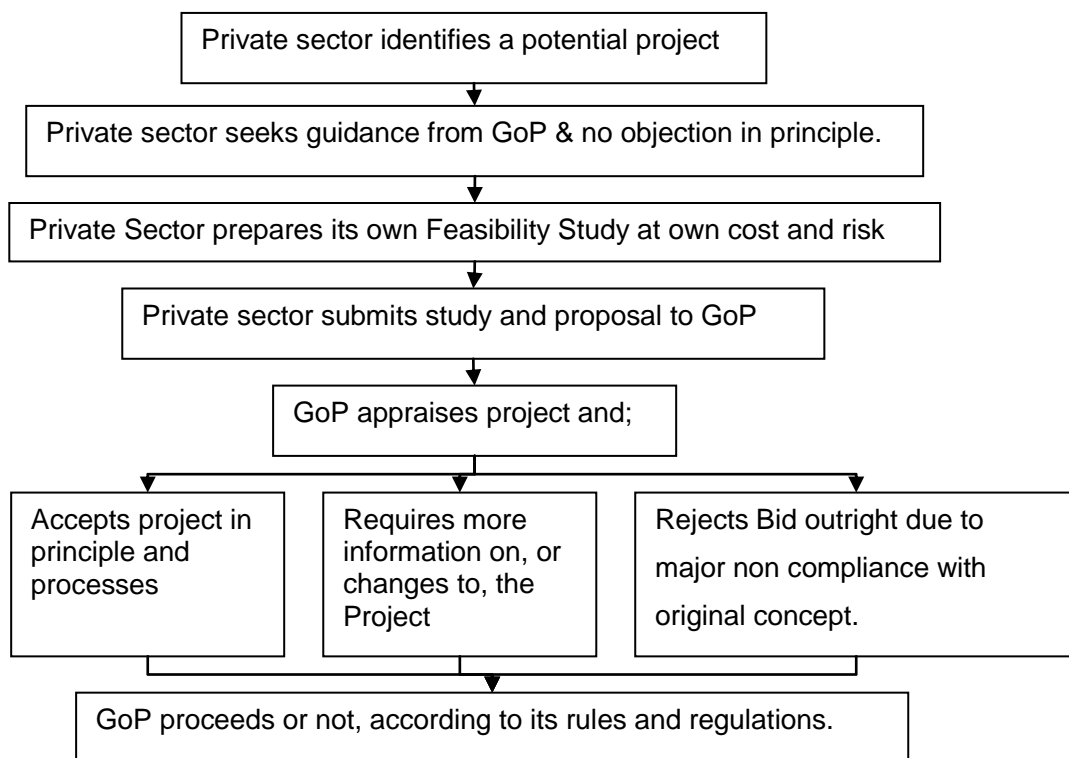


Figure 4. 3: Project Approval Process for Un-solicited Proposal (IPDF, 2010)

The Government then verifies the project performance including viability with the assistance of independent transaction advisors. In all circumstances, unsolicited infrastructure projects are subject to a value for money test and in some cases the GoP may require competitive bidding that takes into account the interest of the initiating private entity (IPDF, 2010).

4.1.4 Traditional Procurement Methods and Procedures

The standard procurement method for contracts worth more than Pakistani Rupee (PKR) 100, 000 (about USD1176) is competitive bidding (ADB-OECD, 2006). Direct purchase is permitted for procurement not exceeding PKR 25, 000 (USD294), and request for quotations, for procurement not exceeding PKR 40, 000 (USD470), if other conditions are met (*ibid*). The value limits can be

extended for specific agencies by the federal Government at the request of the concerned agency (*ibid*). Direct contracting is also permitted for emergency procurement (*ibid*). To prevent abuse of this exemption from the standard procurement procedures, the emergency must be declared by an authority vested with that power (*ibid*). However, what constitutes an emergency is not defined (*ibid*). Negotiated tendering is permitted in cases of extreme urgency that do not result from the procuring agency's action, and other cases. (*ibid*) Under such circumstances, to prevent abuse of this method, the reasons for the decision to resort to negotiated tendering must be recorded (*ibid*). Also, the procurement rules require procuring agencies to plan upcoming projects in detail one year in advance, to avoid unnecessary emergency procurement (*ibid*).

The Procurement Rules 2004 require the advertising of tender opportunities in relation to the value of the contracts that are to be awarded (*ibid*). Tenders worth up to PKR 2.0 million (about USD 23,530) must be advertised on the PPRA's central Web site and may also be publicized in print media (*ibid*). Tenders beyond this value should be published in both print media and on the central Web site and may in addition be posted on the procuring agency's own Web site (*ibid*). Once approved by the PPRA, procurement related to national security is dispensed from any form of public announcement; this exception is, however, limited to situations in which the publication of the tender would jeopardize national security (*ibid*). Model tender documents have been developed to increase transparency and uniformity of the procurement process in certain sectors. At present, however, they are not mandatory and are sporadically used (*ibid*).

Procuring authorities are empowered to determine the bidding period, which depends on the complexity of the project. Minimum periods of 15 working days for national competitive bidding (NCB) and 30 working days for international competitive bidding (ICB) are mandatory (*ibid*). The bids must be opened in the presence of bidders on the day the tender period ends. The procurement rules, however, do not provide for bid opening right after the tendering period, and hence court fraud or misconduct (*ibid*).

PPR 2004 defines the procedures for the evaluation of bids. In principle, the lowest evaluated bid has to be accepted unless this results in a “conflict with laws, rules, regulations or policies of the federal Government” (PPR, 2004). Post-award negotiations with the winning bidder are explicitly prohibited (ADB-OECD, 2006).

Another practice in Pakistan is that the procurement rules and regulations are slightly different if the project is funded on loan from lending institution such as the World Bank, Asian Development Bank etc. If such is the case then usually the procurement rules or procurement guidelines as they are referred to of the lending institutions are to be followed. Basically the major crux of the rules is similar with few variations to the rules and regulations of PPR.

4.1.5 Non-Traditional Procurement Methods and Procedures

In Pakistan in infrastructure sector, non-traditional procurements are mostly seen and are referred to as Public Private Partnerships (PPP's). In Pakistan the Public Private Partnership and the PPP acronym is used for any contractual arrangement, which differs from the traditional contracts awarded under public procurement rules (design & build, outsourcing), including concessions. PPP is also generally referred to as concessions or Build-Operate-Transfer (BOT) contracts, or any variant of them, i.e. contracts where risks and responsibilities are transferred to the private sector and are much wider than in traditional public works or service contracts. They usually entail a mix of construction, operation, commercial and financial issues, with a variable degree of risk sharing between public and private partners.

The actual procurement method and procedure outlined for PPP projects by IPDF in Pakistan is as follows:

The PPP Project Life Cycle, as led by the Contracting Authorities assisted by IPDF and / or qualified and experienced transaction advisors as appropriate, comprises of the following steps:

-
- Step 1 “Project Needs Options Analysis:** Government/Agencies conduct Needs and Options Analysis to determine the best solution to provide the service / build infrastructure i.e. traditional public procurement or PPP route.
- Step 2 Initial Viability Analysis:** Preparation of a Pre-Feasibility Study including possible location(s), alignment(s) and estimates of broad project costs and an initial indication whether the project is likely to be viable and affordable.
- Step 3 Technical, legal, environmental and financial due diligence:** Transaction Advisor conducts in-depth Legal, Technical, Site / Environmental, Market and Financial Due Diligence along with extensive stakeholder consultation.
- Step 4 Risk, Affordability and Value for Money test:** The government assesses through information in Step 3 whether the proposed project is robust and meets GOP criteria for risk, viability, bankability, affordability and value for money. This includes estimates of viability gap and the need for subsidies.
- Step 5 Market Sounding:** Transaction Advisor continuously conducts market sounding to determine under which conditions the market is willing to competitively tender for the services. IPDF can assist the Institution in undertaking the market sounding and the need for viability gap and other funding support by IPFF and determine the final PPP design parameters.
- Step 6 Tendering/Bidding:** The Institution/contracting agency conducts a competitive bidding process. Criteria for selection include lowest tariff or financial benefit to government for viable projects and lowest subsidy/lowest VGF amount for those projects requiring support.
- Step 7 Approval of Viability Gap funding (if required):** Based on evaluation and Project Feasibility Committee endorsement, IPDF submits recommendation for subsidy to the Viability Gap Fund.

Step 8 Signing of Agreement and Financial Close: Signing of Agreement and Financial Close between the Institution, and the winning private partner, (tripartite to include the Viability Gap Fund, if VGF required).

Step 9 Project Monitoring: Project Monitoring by Institution (Construction and Operational Periods). Also of milestone based disbursements if subsidies/annuities are involved)” (IPDF, 2010)

4.2 Analysis and Discussion on Project Approval and Procurement Methods and Processes in Pakistan

This section provides an overview analysis and summarises the project approval process and procurement methods elaborated above. Connecting back to the first research question regarding different types of procurement in Pakistan the following Figure 4.4 provides a diagrammatic explanation of the different types of procurement arrangements and methods for infrastructure projects in Pakistan.

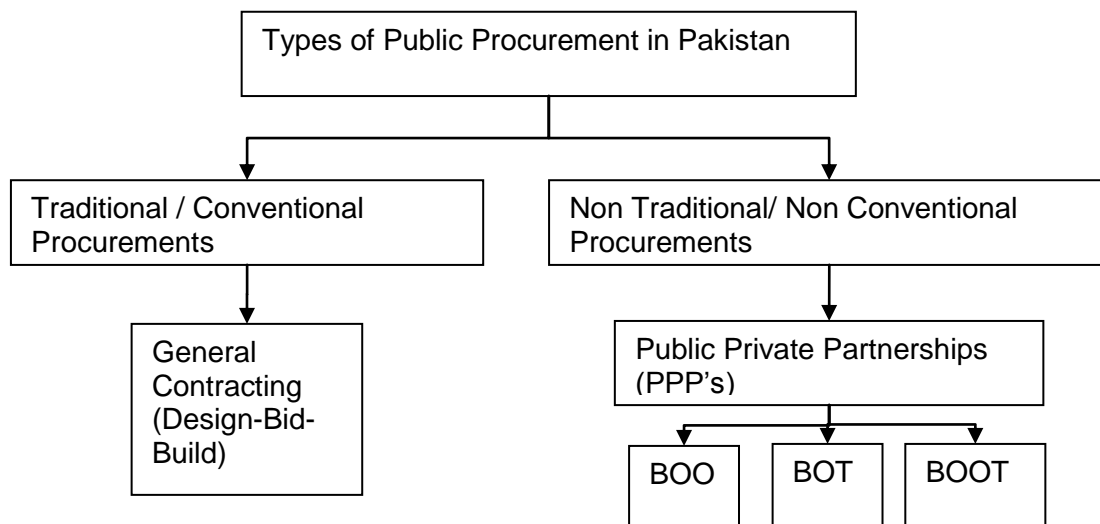


Figure 4. 4: Types of Public Procurement in Pakistan

Public procurement is mainly regulated by the Public Procurement Regulatory Authority (PPRA) through its Ordinance 2002 in Pakistan. The limitation of this law is that its focus is mainly on and is mostly limited to transparency and accountability of procurement. “The efficacy of the PPRA stands minimized in that ‘misprocurement’ – procurement in violation of the rules, regulations and policies – is neither penalized nor rendered ineffective under the law” (ADB,

2007). Also being a Federal law, applies only to procurement by Federal entities. The PPRA covers conventional or traditional procurement only and does not provide a framework for other types of procurement such as Public Private Partnership (PPP) etc.

By going through the procurement rules of the PPRA known as Public Procurement Rules (PPR) and the procurement policy or guidelines of the Infrastructure Project Development facility (IPDF) there seems to be a likeliness for overlap and conflict between the statutory functions of both IPDF or any other body or organisation or a contracting authority for that matter which may be formed or is involved in procurement other than conventional or traditional procurements. At the time of conducting the data collection the Federal government was in the process of introducing a legal framework by enacting a comprehensive set of laws regulating the private sector role and involvement in financing and operating infrastructure facilities. Until the Bill is enacted, PPP projects are governed by contract law, it can utilize IPDF's Standardized Provisions but its not binding to use these provisions which themselves are draft model contracts based on Unitary /Annuity and/or user charge payments designed specifically for PPP projects. In addition, the government departments entering into contracts with private sector need to develop regulatory guidelines in order to ensure quality and fair pricing to be incorporated in the contract thus removing uncertainties during the operational stage or they might have to set up independent regulators with powers to balance the rights of the parties involved which includes the Government, Consumers/Facility Users and the Private Sector. Recently the researcher has found that the Government of the province of Sindh and Punjab have enacted the Public Private Partnership law while such remains to be in acted by the remaining two provinces and territories. The various rules and regulations in Pakistan are vague often having contradictory clauses which tend to make them unrealistic and inefficient to apply. As a result of it inconsistent and arbitrary behaviour thrives in public procurement in Pakistan which consequently increases the transaction costs and overall doing business with the government. The criterion most dominant in public procurement in Pakistan is price while there are almost non existent provisions to ensure quality of work done. The focus of the rules and policy of procurement has been on price and competition while no scope for innovation.

Public sector projects approval follows a process as explained above in section 4.3 and 4.4. The approval processes has its roots in 'executive discretion' and are decided at the highest level of the government. The culture of project approval is on a case to case basis and is over centralised. There is a plethora of process which has to be followed which seems to be the root cause for significant delays. The process and mechanics for approval of projects to be procured with the use of non-conventional procurements follows a different process but the concept remains the same as that of traditionally procured projects. It is not totally black and white as envisaged in the government's policy there are a lot of grey areas which need to be covered. Both the processes have been found to be cumbersome, highly bureaucratic and outdated at the same time are extremely time consuming. Hefty and substantial procurements which is mostly the case for infrastructure projects they are subject to the requirement of competitive bidding only which in itself is a multi stage time consuming process with no room for flexibility. Furthermore the obligatory use of the 'approved' contract and bidding templates are thwarting innovation. The implementation of projects in the public sector in Pakistan is often delayed by the cash flow difficulties arising out of inadequate budgeting or releases of the funds for utilization for political reasons, inadequate planning and governance issues.

4.3 Summary

The infrastructure procurement in Pakistan can be broadly classified in two distinct methods of procurement i.e. the traditional method and the non-traditional method. The project approval process for traditional method is different from the non-tradition method. But overall the approval processes for both is on a case to case basis and is over centralised and having its roots in 'executive discretion' and are decided at the highest level of the government. The limitation of the law governing public procurement is that its focus is mainly on and is mostly limited to transparency, accountability, price and competition while there is no scope for innovation. The institutional arrangement, the framework and mechanics for project approval and procurement has been found to be extremely time consuming, cumbersome, highly bureaucratic and outdated.

Chapter 5

Case Description

The chapter presents the description of the individual case studies selected for investigation during this research. The chapter starts by describing the public sector organisations that have been selected as organisational case studies. It gives a background and introduction of each of these organisations. It describes the functions and responsibilities of each of the organisations along with their organisational structures. It also provides a background and salient features of the projects that have been selected as project case studies.

5.1 Organisation 1

5.1.1. Background and Introduction

Organisation 1 is a Federal Government organisation of the Government of Pakistan (GoP) created through an act of parliament for planning, development, operation, repair and maintenance of National Highways and Strategic Roads by the Federal Government or by a Provincial Government or other authority concerned. Total length of the roads under this organisation is 8780 Kilo meters which accounts for 3% of the entire road network and 75% of the commercial road traffic in the country. This organisation is the custodian of the Highway assets of Pakistan's road network.

5.1.2. Functions and Responsibilities

- To Plan, Promote, Organize and Implement Programs for Construction, Development, Operation, Repairs and Maintenance of National Highways/ Motorways and Strategic Roads.
- Advise the Federal Government on matters relating to National Highways and Strategic Roads
- Frame a scheme or schemes for matters such as construction, expansion, operation and development of National Highways and

Strategic Roads and undertake work and incur expenditure on such scheme(s).

- Acquire any land in accordance with legal procedure and obtain and dispose of moveable and immovable property of interests therein.
- Responsible for research and development in the field of Highways. Cause studies, surveys, experiments and technical researches to be made or contribute towards the cost of such studies, surveys, experiments or technical researches made by any other agency.
- Responsible for procurement of plant, machinery, instruments and materials required for its use.
- Has the authority to enter into and perform all such contracts as it may consider necessary.
- Levy, collect or cause to be collected tolls on National Highways, Strategic Roads and such other roads as may be entrusted to it and bridges thereon.
- License facilities on roads under its control on such terms as it deems fit.
- Determine a building line between which and the right of way (RoW) it shall not be lawful without the consent of the organisation to construct or maintain any structure or make any excavation.

5.1.3. Organisational Structure

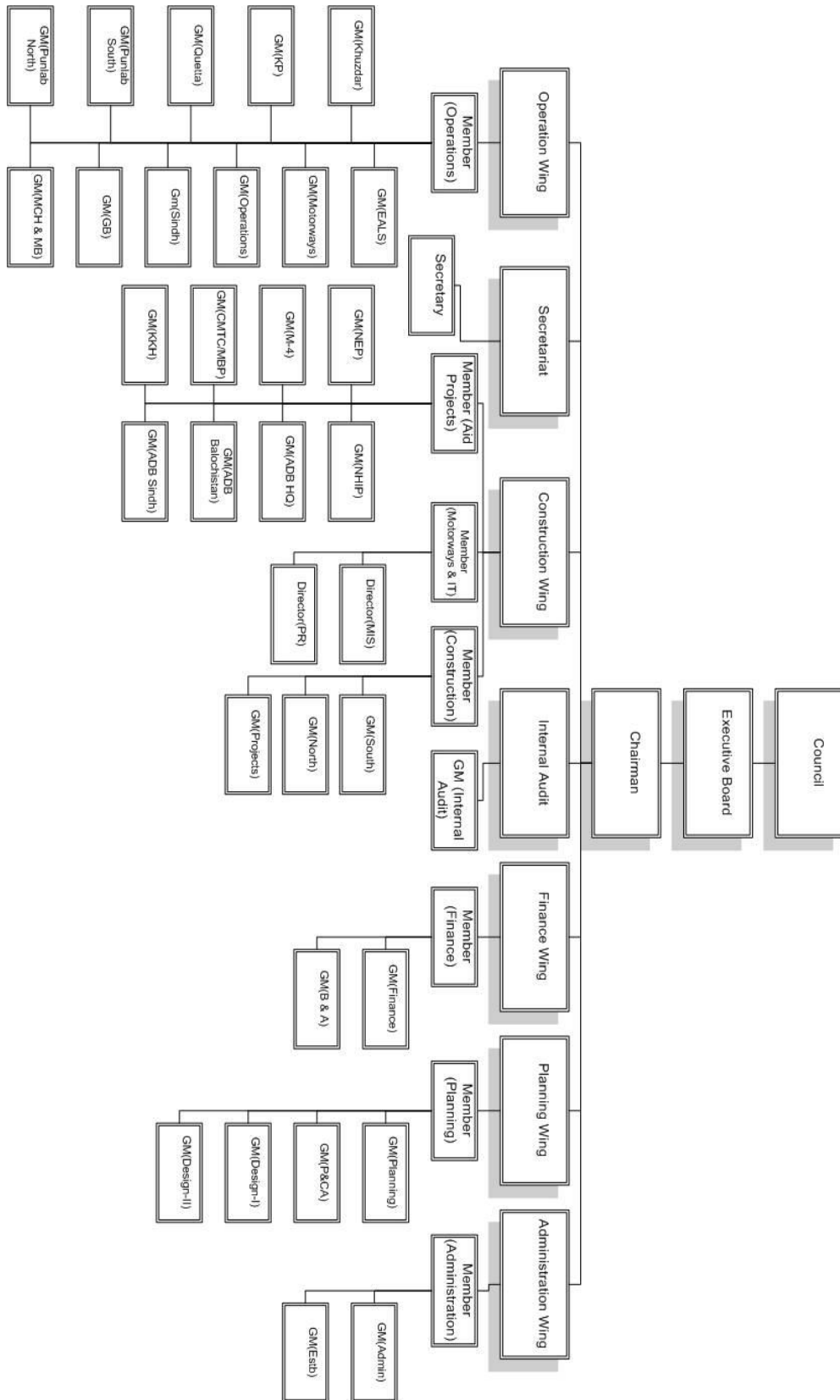


Figure 5. 1: Organisational Structure of Organisation 1

Organisation 1 has its Head Office at the capital city of Pakistan i.e. Islamabad with the Chairman as its Chief Executive Officer. In the Head Office, there are eight Wings/Sections namely Planning Wing, Operation Wing, Finance Wing, Administration Wing, Secretary Section, Public Relation Section, Internal Audit Section and Vigilance Section. There are five Regional Offices in Karachi, Quetta, Multan, Lahore and Peshawar. In Head Office each Wing has various sections which are listed as above. Each of the wings is headed by Wing Member and is subordinated by General Managers.

5.1.4. Case Study Project A

5.1.4.1. Background

At one of the motorways of Pakistan which is a 6-lane divided motorway, 154 kilometres long and access controlled facility. The existing alignment has a dearth of service areas and the situation was posing discomfort and hence shunning off potential traffic. So organisation 1 has decided to establish two main service areas. Keeping in view the financial constraints and pursuant to policy of the Government of Pakistan, the organisation 1 has planned to implement the project through Public-Private Partnership under Build-Operate-Transfer (BOT).

5.1.4.2. Case/Project Details

The Concessionaire is required to Finance, Construct, Manage and operate the facilities compatible with the other service areas along the national motorways but not limited to the following:

- Restaurants and Food Courts
- Toilets
- CNG/LPG Filling Stations with Tuck Shop
- Diesel/Petrol Filling Stations with Tuck Shop
- Tyre Shop and Mini Workshop
- Medical Clinic
- Amusement and Children Park

- Advertisement Boards, Gantries etc
- Mosque
- Boating Area/Fishing Deck
- Parking Area
- Truckers Workshop
- Internal Roads, Sewerage, Water Supply and Electrification

The salient features of the concession are as follows:

Concession Term	:	15 Years
Project Cost	:	Rs. 689,390,000
Debt/Equity Ratio	:	70:30
Internal Rate of Return	:	19-20%
Payback Period	:	6-7 Years
Financial Close Period	:	5+1 Months
Construction Period	:	12 Months
GOP Financial Support	:	None
GOP Guarantee	:	None

The project was in final stages of procurement.

5.1.5. Case Study Project B

5.1.5.1. Background

The case project is a tunnel Project which comprises of construction of a 180-metre long tunnel and 5 kilometre road. Tunnel is facilitating the public, travelling on the national highway, by improving the steep gradient and eliminating the curves and reducing travel time. It has also increased the trade activities inside the country and also with the Central Asian Republics and providing better business opportunities to the locals of the area.

5.1.5.2. Case/Project Details

The project consisted of construction of a tunnel that is 180 meters in length it also included construction of access roads (5 Km) to Tunnel and improvement of existing road, construction of interchange, construction of two grade-separated crossing of the two carriageways, construction of toll plaza and weigh station. The total cost of the project is Rs 1098 Million and the project has been procured through Public Private Partnership under BOT basis. The project has been completed and is under operation by the operator.

5.2. Organisation 2

5.2.1. Background and Introduction

The organisation 2 is an organisation of the Federal Government of Pakistan created to facilitate private sector in the participation of power generation in Pakistan. This organisation provides a One-Window facility to private sector investors in matters concerning establishing power projects and related infrastructure. It also provides support to the power purchaser and fuel supplier while negotiating the Power Purchase Agreement (PPA), Fuel Supply Agreement (FSA)/Gas Supply Agreement (GSA), other related agreements, and liaison with the concerned local and international agencies for facilitating and expediting progress of private sector power projects. Established with a view to offer support by the Government of Pakistan to the private sector in implementing power projects

5.2.2. Functions and Responsibilities

- To provide One-Window facility to investors in the private power sector by acting as a one stop organization on behalf of all ministries, departments and agencies of the GOP in matters relating to the setting up in expediting the progress of power projects in private sector either through competitive bidding or through proposal submitted by interested parties on raw sites.

- To negotiate the Implementation Agreement (IA) and provide support in negotiating Power Purchase Agreements (PPAs), Fuel Supply Agreements (FSAs), Water Use Licenses (WULs) and other related agreements.
- To provide Guarantee to Independent Power Producers (IPPs) for the performance of Power Purchaser.
- To prepare, conduct and monitor litigation and international arbitration for and on behalf of GOP for Private Power Project/Proposals.
- To assist the regulatory authority in determining and approving tariff for new private power projects.

5.2.3. Organisational Structure

The organisation has a functional organisational structure headed by the managing director who reports to chairman of the board. The membership of the board is comprised of government member, private sector member and co-opted members. The government member include the Chairman, the concerned minister is by default chairman of the board. The other government members includes the secretaries of the concerned ministry as well as ministries of finance, petroleum and planning commission, chairman of board of revenue the chairman of the development authority concerned with water and power and the Managing director of the organisation 2. The co-opted members include Provincial Chief Secretaries and other Departmental Heads as Board members (as and when required) for such meetings where items/projects pertinent to the particular Province or state of Azad Jammu and Kashmir (AJ&K) form part of the agenda for Board meetings. The board has oversight responsibility over the organisation and the managing director is responsible to report to board, the concerned ministry and to the legislative assembly.

There are five directorates under the managing director headed each by a director except hydel which is headed by the executive director as shown in

5.2.4. Case Study Project C

5.2.4.1. Background

The Project is to provide power at a competitive tariff, and will promote renewable energy particularly helping to reverse the generally declining share of hydropower generation in Pakistan's generation mix. The project is the first private sector hydropower project in Pakistan on build-own-operate and transfer (BOOT) basis whereby the complex would be transferred to the Government free of cost at the end of a 25-year term. The government expects that it will set the precedence and template for private sector development in the hydropower sector.

5.2.4.2. Case/Project Details

The Project involves construction of a run-of-the-river, low head, 84MW hydropower generating complex. It is located at the escape channel, some 7.5 km downstream of the existing major dam. It will be fed by water originating from the reservoir of the dam, which is released, through the powerhouse (1,000 MW), into the canal. There is no new reservoir or other water storage envisaged for the Project. Total current Project cost is estimated at about US\$ 216 million to be financed at a debt equity ratio 75/25; financing for US\$ 121 million is in place through consortia comprising of the international lending institutions as well as local Pakistani commercial banks. The project is in construction phase.

5.2.5. Case Study Project D

5.2.5.1. Background

It is a thermal power plant which will be the first to be commissioned under the Government of Pakistan's Power Policy-2002. The project has been procured under the Public Private Partnership on build-own-operate (BOO) basis.

5.2.5.2. Case/Project Details

The project is an oil-fired thermal power plant of generation capacity of 165 mega watts (MW). The unique feature of this power plant is its environment friendly fuel i.e. the low Sulphur furnace oil (LSFO) which is extracted from the indigenous crude oils processed in Pakistan. Financing arrangement as per tariff determined at financial close, is equity 20% and loan 80%, the total cost of the project is Rs 8,916 million (US\$ 148.60 Million). The equity partners are the operator and a consortium of local Pakistani commercial banks. The tariff has been determined for a period of 25 years and the government has given guarantee of power purchase. The construction of civil works has been completed while procurement of machinery and installation is in process.

5.3. Organisation 3

5.3.1. Background and Introduction

Organisation 3 is a provincial government organisation created through an ordinance. The basic idea of its creation was to conceive, plan, and ensure the construction, improvement, maintenance, and repair of provincial highways and roads. This organisation also undertakes other communication/ transports projects as indicated by the respective provincial Government. Presently the organisation is custodian of 15 Provincial Highways with a total length of 2177 Kilometers.

5.3.2. Functions and Responsibilities

- Prepare and notify in the official gazette, list of Provincial Highways.
- Advise government on matters relating to Provincial Highways and other roads.
- Acquire any land in accordance with legal procedure.
- Prepare a master plan for the development, construction, operation and maintenance of Provincial Highways and Roads in the Province.
- Incur expenditure on acquisition of land and disposal of assets. Ensure mutation of land as soon as the land is taken over.
- Procure plant, machinery, instruments and materials required for its use.

- Levy, collect or cause to be collected tolls on Provincial Highways and other roads.
- Notify the right of way.
- Execute studies, surveys, experiments and technical research. Seek and obtain advice and assistance.
- Raise capital/ funds (local and foreign).
- Exercise power to award contracts for projects.

5.3.3. Organisational Structure

There are two main wings of the organisation i.e. the operational wing and the administrative wing. The overall management responsibility and control of the organisation lies with the managing director. The managing director is responsible to report to the concerned ministry and to the legislative assembly. The operational wing is further subdivided in construction and maintenance wings each headed by a director as shown in Figure 5.3 below. The administration wing is subdivided into land acquisition and vigilance, finance wing and contract and drawing wing each headed by a director.

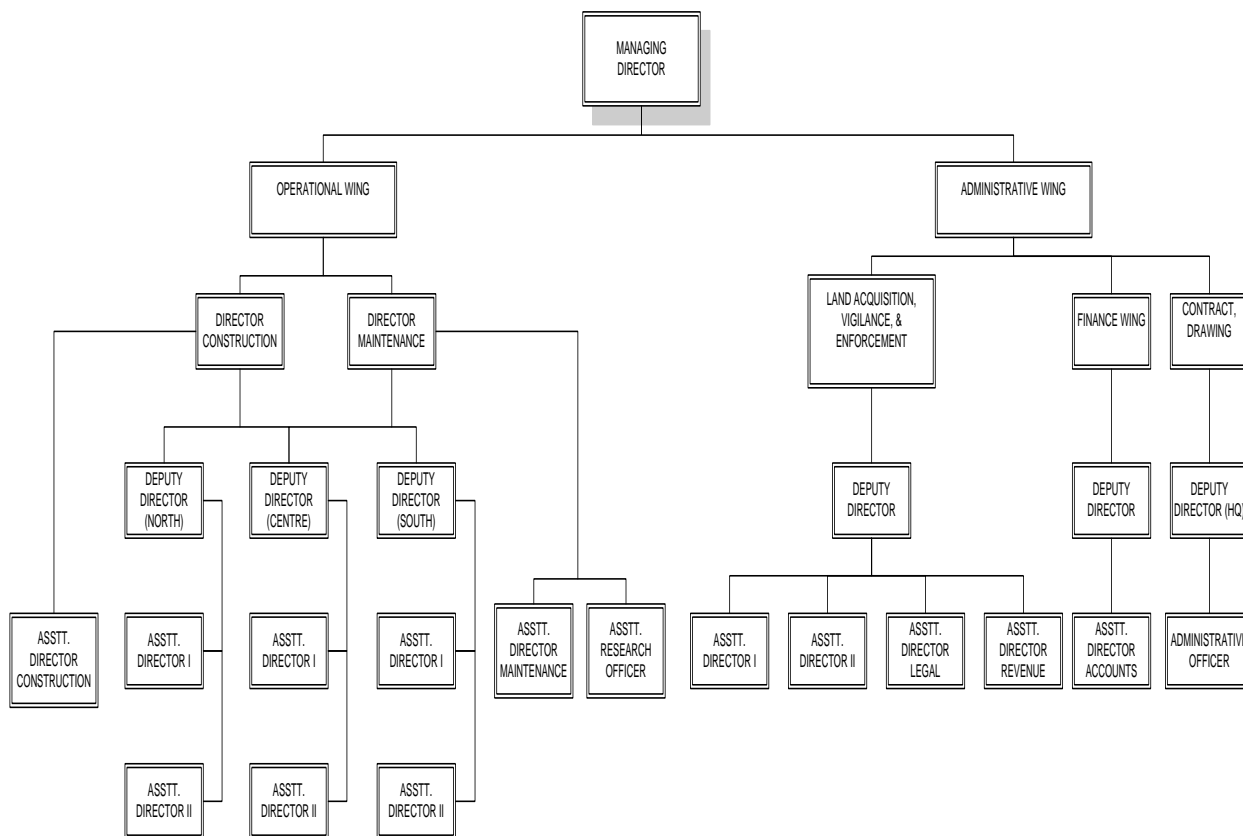


Figure 5. 3: Organisational Structure of Organisation 3

5.3.4. Case Study Project E

5.3.4.1. Background

The province has a road network of approximately 14,000 kilometres (km), which represents about 5.6% of the total road network of 249,959 km in Pakistan. The province is landlocked; as the country’s nearest port is over 1,500 km away to the south. Major parts of the road network in the province are in very poor condition. These major physical constraints reduce the prospects for pro-poor economic growth and poverty reduction.

5.3.4.2. Case/Project Details

The project is a loan project from an international lending institute on traditional procurement method. The total cost of the project is US \$ 418.6 Million in which the lending institution’s share is US\$ 296.2 Million while the Government’s share is US \$ 122.4 Million. The project consists of construction of 75.5 kms of road across

three districts and 10 bridges. The project has been procured through traditional international competitive bidding (ICB) process. The procurement has been carried out using the prescribed procurement guidelines of the lending institution. The second component of the project is institutional strengthening of the implementing agencies of the government involved in the project. This includes training of personnel and procurement of modern construction machinery and technology. The project is in the final completion stage.

5.4. Organisation 4

5.4.1. Background and Introduction

Organisation 4 is a Federal Government organisation and was established as a specialized development organization to broach more innovative, fast track and participatory approach to replace the conventional straight jacket development systems. The goal of the organisation is to plan and execute sustainable development projects across many sectors.

5.4.2. Functions and Responsibilities

- To develop human and natural resources in the region.
- To provide a conducive atmosphere to ensure active participation of the tribal people in the development efforts for the tribal areas.
- To explore and develop the natural resources of the tribal areas and to make the tribal the beneficiaries of the resources.
- To provide opportunities to the tribal people in the industrial sector by facilitating setting up of industries in their areas.
- To provide opportunities to the tribal people for improving their agriculture by providing necessary water facilities to the deficient areas through small dams.
- To provide better education to the tribal people in the technical & vocational sectors.
- Assessment of Potentials for Economic Development
- Preparation of Survey, Feasibility Reports, and Projects
- Industrial Development

- Development of Minerals
- Development of Water Resources
- Skills Development

5.4.3. Organisational Structure

From Figure 5.4 below this organisation can be seen to be structured on corporate and commercial lines with a leaner bureaucratic functional setup. The organisation is headed by a Chief executive the organisation is divided into 4 sections i.e. finance, planning, mineral and technical. Each section is headed by a general manager sub-ordinated by managers. The board has an oversight role over the organisation. The membership of the constitutes of 5 public sector member i.e. chief executive of the organisation being the chairman of the board along with members from federal ministry of finance, planning commission and palnning departments and 4 private sector members from FATA. The overall management responsibility and control of the organisation lies with the chief executive. The chief executive is responsible to report to the concerned ministry and to the legislative assembly.

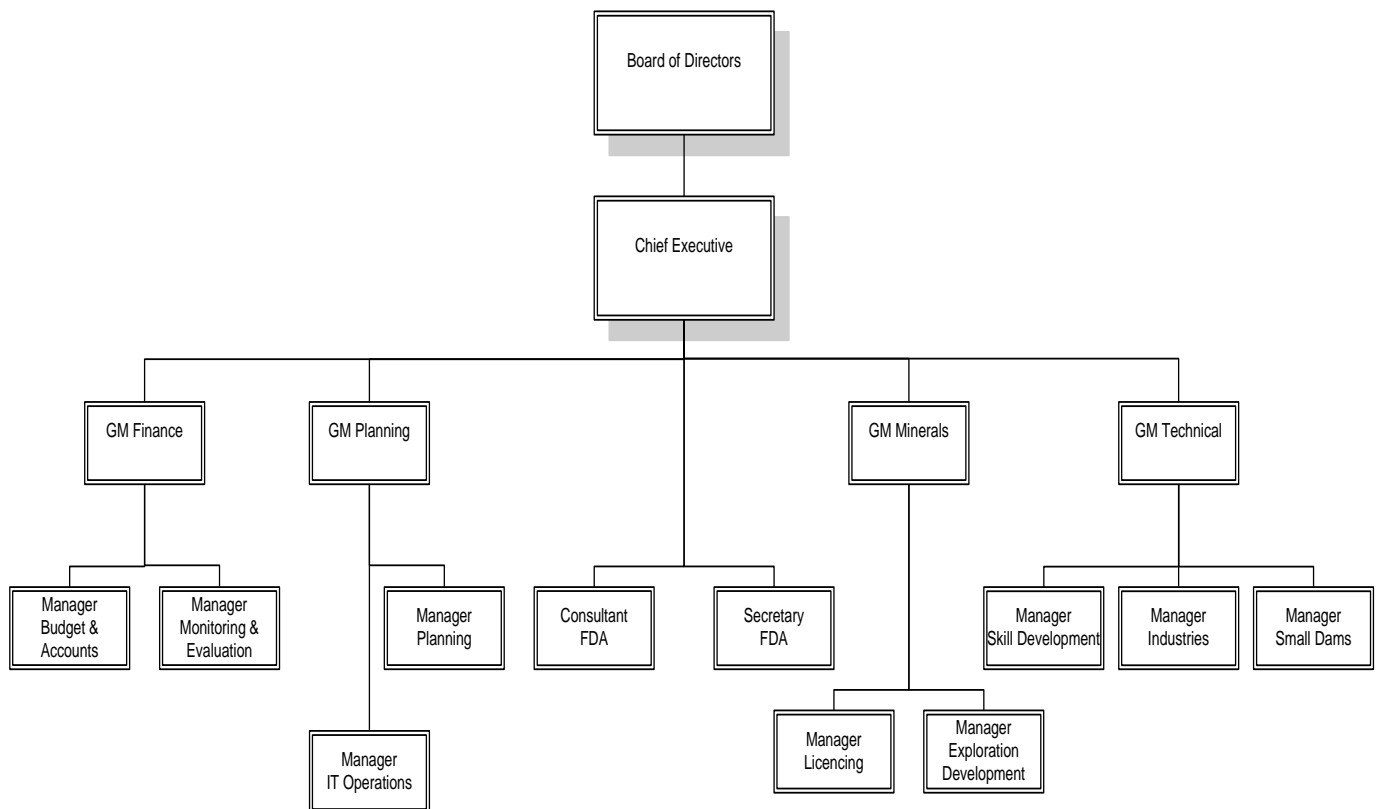


Figure 5. 4: Organisational Structure of Organisation 4

5.4.4. Case Study Project F

5.4.4.1. Background

Federally Administered Tribal Areas (FATA) region located in the arid & semi arid zone, which receives scarce precipitation, this leading to low surface run off & low water table. In this region, most of the house holds depend on Agriculture & Live stock, however only 7% of the total area is cultivable out of which 44% is irrigated & the remaining land is rain fed. For prosperity of the region it is necessary to develop the water sector by harnessing & arresting of flood flows through small storage reservoirs. With construction of small dams, irrigation water is made available to small patches of land & the recharging of water table in the area is improved. In this region Irrigation of small patches of land along the natural streams was practiced by construction of temporary diversion bunds to the flows (Flood & Perennial where available), besides irrigation from natural springs. After the introduction of lifting devices, the irrigation was flourished, but due to unbalance with-drawls of sub-surface water, the water table depleted in the region and also due to high operational cost, and low electricity voltage approximately 50% of the tube-wells are reportedly dis-functional. In the recent past two Nos. small storage reservoirs were constructed. Organisation 4 has now initiated its activities by taking over new dam projects. It is planned that these dams will irrigation an area of 1123 & 2000 acres.

5.4.4.2. Case/Project Details

The Project comprises (a) an embankment dam, (b) a spillway, (c) an embankment dyke, (d) intake and outlet structure and (e) irrigation network. The dam is 84 ft high with a crest length of 764 ft. The spillway is open cut ogee type structure having a discharge capacity of 18500 cusec. The dyke is 30 ft high with a crest length of 1304 ft. Intake structure is designed for about 6 cusec discharge. The irrigation network extends in 688 acres of cultural command area. The total cost of the project is Rs. 304.644 Million (Approx. US\$ 358,404.7). The Benefit Cost Ratio and Economic Internal Rate of Return (EIRR) worked out on the basis of the cost estimate is 1.05:1 and 12.65% respectively. The project has been completed and is

operational. The project was procured using the traditional procurement method in Pakistan through National Competitive Bidding (NCB).

5.5. Organisation 5

5.5.1. Background and Introduction

Organisation 5 is federal government organisation of Pakistan and is responsible for overall control of railways in Pakistan as well as to guide the overall policy. This organisation is one of the largest government organisations in Pakistan and forms the life line of the country by catering to its needs for large scale movement of freight as well as passenger traffic. It not only contributes to its economic growth but also promotes national integration and international linkages. The network has 7,791 route km, 559 stations, a sleeper factories, a locomotive and a carriage factory and it has annual revenue of around Rs.20 Billion (approximately US\$ 235 Million)

5.5.2. Functions and Responsibilities

- All matters pertaining to railways in Pakistan.
- Movement and priority in respect of Defence traffic.
- Maintenance of Railway lines for strategic reasons.
- Negotiations with International Organizations and other Countries and implementation of agreements, with them.
- Coordination of Development Projects of Railways as a part of the National Development Programme.
- Standardization and specifications of materials and stores.
- Overall efficiency and safety of Railways.
- Coordination of Rail movements into and from Ports

5.5.3. Organisational Structure

There are four (4) Directorates in this Division namely Administrative Directorate, Technical Directorate, Planning Directorate, and Finance Directorate as shown in Figure 5.5. The following officers also report directly to the Secretary of the Ministry concerned:-

- a. General Manager (Operations)

- b. General Manager/Manufacture and Services
- c. Federal Government Inspector of Railways

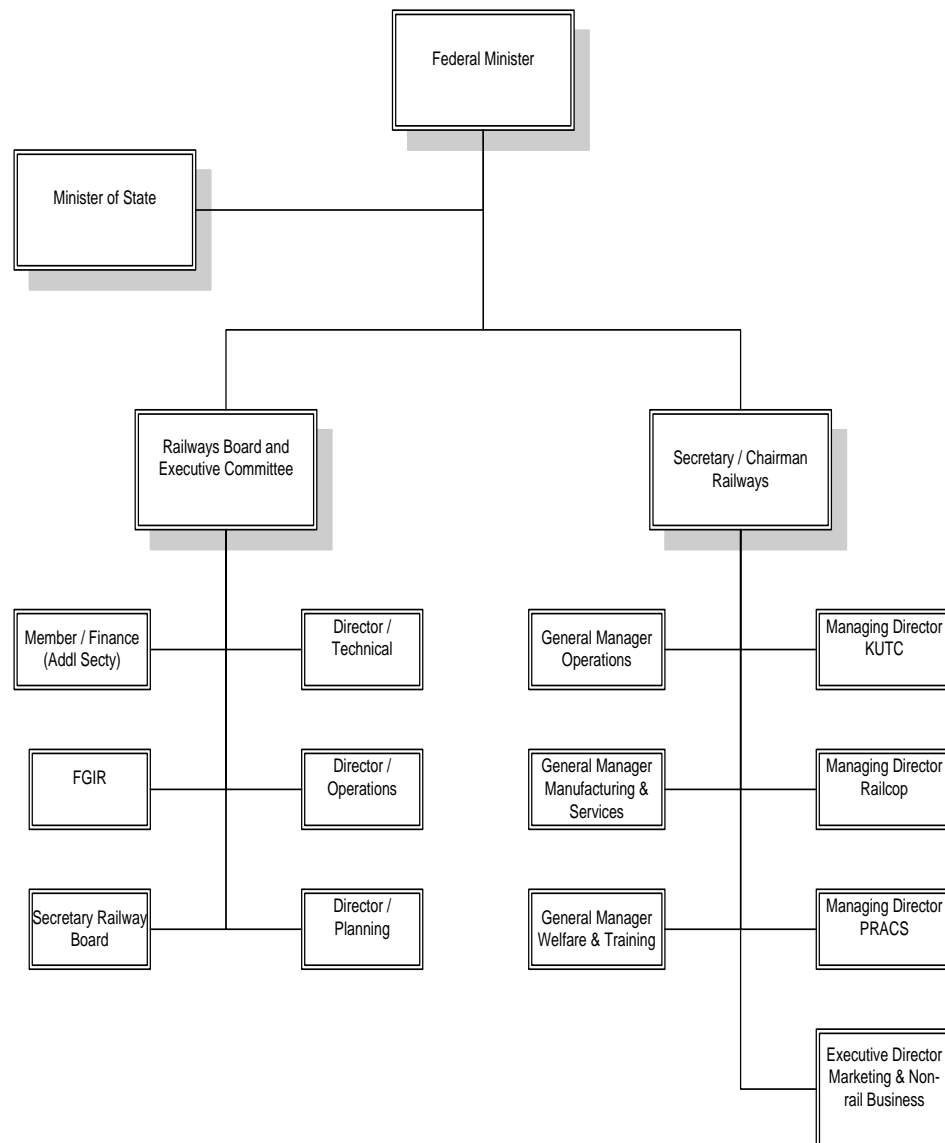


Figure 5. 5: Organisational Structure of Organisation 5

The Board is the highest body for technical matters of the organisation, which stands merged with the Division concerned. Secretary of the Division is also ex-officio Chairman of the Board.

This organisation is a vertically integrated organisation and has four business units. Railways is headed by a General Manager, who is the Chief Executive Officer assisted by four Additional General Managers, namely, Infrastructure

Business Unit, Passenger Business Unit, Freight Business Unit and Manufacturing and Services Unit that looks after: Concrete Sleeper Factories, (CSF), and Carriage Factory (CF), Locomotive Factory, Rehabilitation Project, Medical and Health Service. A government owned and run railway construction company, a government owned railway advisory and consultancy service and educational facilities.

5.5.4. Case Study Project G

5.5.4.1. Background

This project is a proposed Mass Rapid Transit System (MRTS) that will connect several industrial and commercial districts within a city of Pakistan. This project has been under consideration since 1976, the project was opened for traffic in two phases in 1964 and 1970. Over the 15 years of its operations it gradually lost its rider-ship due to longer travel time and delays. The numbers of trains were also gradually reduced and the project was closed in December 1999. In 2002 the provincial government concerned appointed a consulting firm to prepare a study on reviving it. As a result of that study, the viable implementation plan for the revitalization of the project was proposed. It is a two-stage implementation for the transit system, and in 2009, the Government of Pakistan approved the \$1.54 billion project on public private partnership modality. The organisation 6 will hold a 60% share in the corporation, while the respective provincial government and the city district Government of will retain 25% and 15% stakes respectively.

5.5.4.2. Case/Project Details

It has been decided by Government that the project be revived as a modern commuter system and a special purpose vehicle (a company) has been set up for its implementation/operation. It is envisaged that a private operator will be appointed to take over the operation and maintenance (O & M) of the project under a concession similar to the Mass Rail Transit models like Singapore Mass Rail Transit (SMRT) which is a PPP success story. The

project will cater to 28 stations with a route length of 43.1 KM (Stage-1, Stage-II & Stage-III). The approximate cost of the project is estimated at US\$ 1.54 billion. Regarding the status of the project, it has been approved by the Executive Committee of National Economic Council (ECNEC) which is headed by the Prime Minister of Pakistan. The project presently is under going third party validation. O&M component of the project will be offered to the private sector.

5.6. Organisation 6

5.6.1. Background and Introduction

Organisation 6 is a Public sector autonomous body working under the Federal Government of Pakistan through the concerned Ministry. Prior to its creation, a civilian aviation department in the concerned Ministry used to manage the civilian aviation related matters and activities. All kinds of civil aviation related activities are performed by Organisation 6 including the regulatory, air traffic services, airport management, infrastructure and commercial development at the airports, etc.

5.6.2. Functions and Responsibilities

- Strengthening aviation safety and security oversight role as per International Civil Aviation Organisation requirements and standards.
- To facilitate growth of the infrastructure development (airports and airport cities) on a fast-track basis. Private sector participation in the process is also being encouraged.
- Enhanced Regulatory and air space management capabilities. Moreover, emphasis is being laid on commercialization of its assets and land with improved customer / passenger service standards, benchmarked with top performing international airports.

- Development of a new aviation policy for the country in consultation with the concerned Ministry, Planning Commission, World bank, airlines, and aviation experts.
- Investing in human resource development through structured approach with particular focus on quality of people and enhancing their professional capability.

5.6.3. Organisational Structure

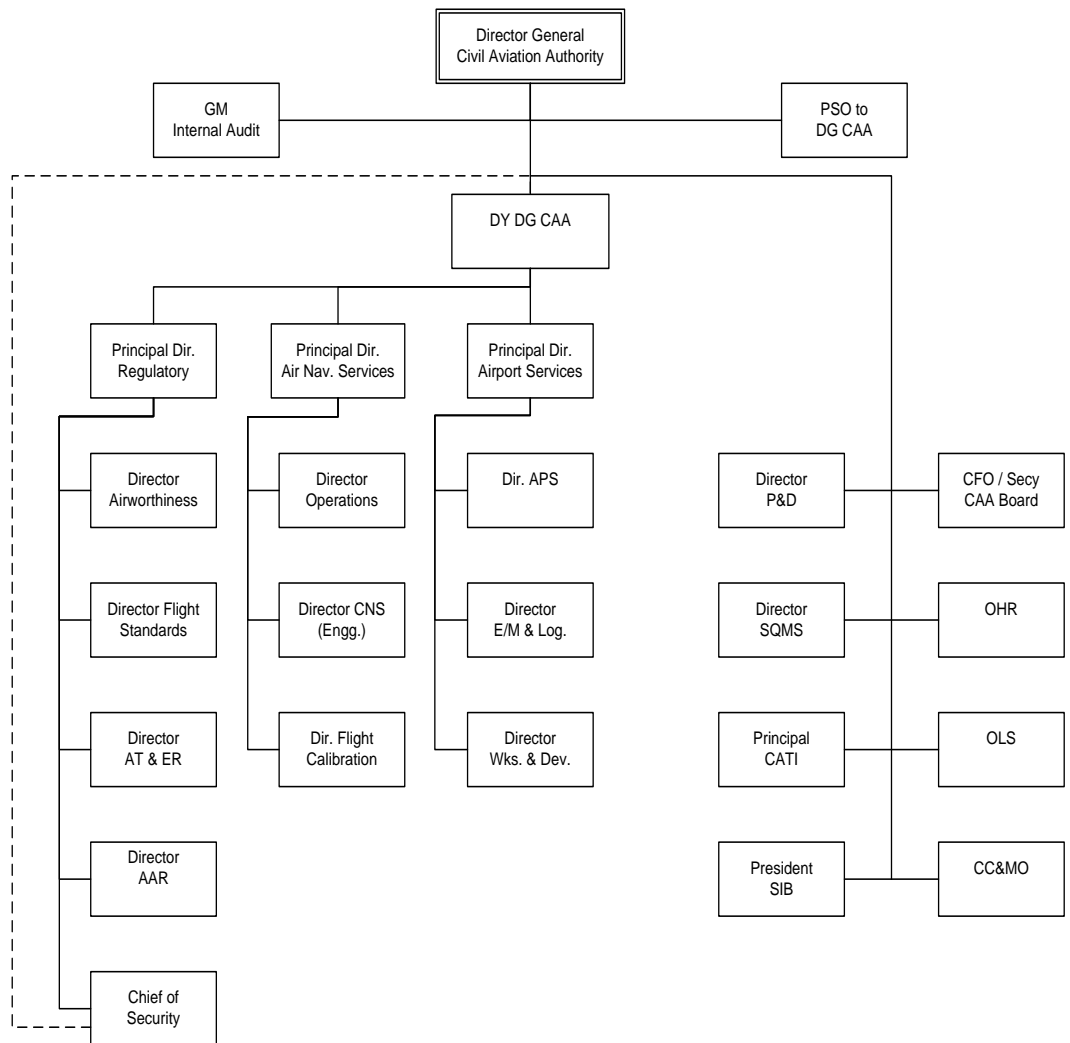


Figure 5. 6: Organisational Structure of Organisation 6

The organisation has a very functional bureacritic structure as shown in Figure 5.6 above. An administrative board consisting of seven board members chaired by a Secretary of the concerned ministry who is the chairman of the board

provides policy guidance to Organisation 6. The director general has one deputy director general. The headquarters of the the Organisation is in Karachi. There are also five regional offices each headed by a zonal manager who reports to the director general.

Recently, organisation 6 underwent restructuring and change management process to meet the present and future challenges. This organisational transformation process identified structure, culture, skills, and rewards as four tracks on which simultaneous emphasis is being laid. The vision, mission, and core values have been identified. Wide-angle buy-in process by senior management with staff and lower levels for bridging communication gaps between different hierarchical levels of the organization has been taken. As a result of the restructuring process, the fundamental organisation structure has been balanced to focus on three core areas namely regulatory, air navigations services, and airport services each headed by a principal director as shown in Figure 5.6 above. These core / line functions are fully supported by the various corporate functions of the organization.

5.6.4. Case Study Project H

5.6.4.1. Background

The export oriented industrial city had long felt the need of an international passenger and cargo airport. The nearest one was about 125 km away. The federal government promised the industrialists of the city an international airport but due to bureaucratic red-tape, indifference by the government and more importantly its proximity to the border and the periodic shelling from across the border, no work could be started. Finally, in the late 80's the local business community agreed to build the airport themselves and sought the federal government's approval. In 2001, approval was granted after a decade of negotiations with the federal government and construction of an international airport for passenger and cargo traffic began on self help basis. A team of directors was approved, all of whom placed personal wealth into the project as a primary investment. Each director on the board had previous experience of running sizable and successful enterprises;

therefore they were all selected due to this knowledge. Also, with Rs 5 million (approximately US\$ 0.588 Million) of personal investment in the project by each one of them, the directors had a direct stake in its profitability. As the development of the airport went on, the number of directors had reached 250 and it was decided to close membership to the Board of Directors. The significant number of Board of Directors inspired confidence that the potential of the airport project will be fully realized. In 2001, a Memorandum of Understanding (MoU) was signed between the Chamber of Commerce and Industry of the city and the Organisation 6 with the approval of Ministry concerned for the construction of the international airport.

5.6.4.2. Case/Project Details

A special purpose company was formed under the auspices of the respective chamber of commerce and industry and raised the capital for the construction of the project. The project was purely on self help basis, the private sector had raised the capital for the design and construction of the airport. Which is the first and biggest international airport constructed in the private sector in Pakistan. The airport at a cost of over Rs 2.6 billion became operational in 2007. The project is with in a major export hub of Pakistan and the airport is being upgraded to make it compatible to carry the load of three Boeing 747s. The airport authority is currently working with a private company to develop the airport to meet international standards. The airport has developed a brand new runway so heavier aircraft can land there. There is a new terminal currently being built to deal with increase in passengers as well as cargo imports and exports. The salient features of the airport are as follows:

- Services
 - Fuel farm
 - Aircraft ground maintenance services
 - Catering

- Other related services through concessions to private parties.
- Runway;
 - 3,600 meter long, 45-meter wide with 7.5-meter wide shoulders on either side corresponding to International Civil Aviation Organization Category 4E.
- Link Taxiway;
 - 263-meter long, 23-meter wide with 10.5-meter shoulders.
- Aprons;
 - For passenger and cargo, 45,000-Sq meter area. Combination of flexible and rigid pavements.
 - Nose-in parking for 4 wide-bodied aircraft at a time or 3 Airbus aircrafts plus 3 F-27 aircraft at a time.

5.7. Summary

The description of each of the case study selected for investigation by the researcher for this research has been presented. A total of 6 public sector organisations have been selected as organisational case studies and 8 projects have been selected among these organisations as project case studies. Out of 6 of the organisations 5 are federal government and 1 provincial government organisation. The organisational coverage of sub-sectors of infrastructure includes transport, water and power sub-sectors. Geographically the organisations and projects cover all four provinces and tribal areas as well as the state of Azad and Jammu Kashmir. Projects have been selected on the basis of procurement method out of the total 8, 3 of the projects are on BOT, 2 projects on BOO, 1 project on BOOT (only BOOT project in Pakistan) and 2 projects on traditional method of procurement have been selected. Details of each of the organisation have been provided such as the structure of the organisations and functions and responsibilities. Regarding case study projects a background of each of the project along with salient features of the project have also been provided.

Chapter 6

Individual Case Analysis

The purpose of this chapter is to present results of the case studies on procurement practices being undertaken in public sector organisations in Pakistan. Each case study organisation is considered individually based on the respondents' interview pertaining to the organization and content analysis of the interview transcripts as described in chapter 3 section 3.8.2 in detail. Each case study follows the same structure and starts by describing the procurement selection and choice in each organisation and the issues in procurement selection. This is followed by the identification and description of the issues in procurement implementation in these organizations and the impact of procurement on successful project outcomes. Lastly in each organisational case study the same description regarding issues in selection and implementation of procurement is done for the individual case study projects selected.

6.1 Organisation 1

6.1.1 Procurement Selection/ Choice

In this Organisation there are different methods of procurement that can be described as traditional and non-traditional procedures. One type of procurement is considered as solicited while the other type is considered as un-solicited as already discussed in chapter 4 in detail. Solicited type of procurement can be done in two ways one is to negotiate the project with the client and the other way is through open competitive bidding. Like most public sector organizations in Pakistan Organisation 1 does open competitive bidding in most of the cases. In un-solicited type a party (public or private) comes to the client and suggests a project to them that they would like to undertake and the client then considers its viability, feasibility and affordability within their own requirements. The choice of procurement largely depends on the client's objectives, project characteristics and performance requirements as reported by all the respondents. The procurement choice in Organisation 1 firstly depended on the client's (Organisation 1) objectives, which were to improve efficiency plus they did not have funds to finance these projects. The respondents in

Organisation 1 felt that private sector was more efficient than the public sector in delivering projects. According to one of the respondents “private sector is more efficient in managing the cost, time and quality”. Secondly because of the projects characteristics as it was financially feasible based on toll generation capacity as well as the ability of the projects to generate finances from services such as fuels, tourism etc. in the projects and lastly because of performance requirements such as on time completion and quality.

In a nutshell in Organisation 1 there is either the traditional procurement or non-traditional which is basically Public Private Partnership (PPP) and within both of them they have different options such as competitive bidding, negotiated bidding, unsolicited proposals and solicited proposals. The respondents stated that there are not much pros or cons of these options but negotiated bidding was reported to reduced time, while open competitive bidding was found to be more transparent but took more time. Unsolicited proposals were also felt to reduce time but they had a risk of price hike while competitive bidding was also reported to reduce the price but were poor on quality. This is the standardised way in which procurement is done in the organisation.

6.1.2 Issues in Procurement Selection/ Choice

6.1.2.1 Need for Efficiency and Finances

The respondents preferred non-traditional method of procurement of Public Private Partnership (PPP) over the traditional method of procurement as the emphasis was on efficiency and lack of funds. The respondents felt that the need for efficiency and finances were the main reasons for choosing a certain procurement method in their organisation. As one of the respondent stated that “in general if we compare our method of financing of PPP with our regular Public Sector Development Programme (PSDP) our requirement is of efficiency. We don’t have the funds and we need the efficiency”. International donors are rare that give aid most of them are lenders who lend money to the organization and they have there own standardised procurement process which is primarily quality-cost based in the public sector. In case of foreign aid for instance what country X did with the organization they brought there own supplier credit. Also a few of the

respondents gave the example in case of motorway project in which an international company came to the Organisation 1 with its own finances in which 80% were theirs while 20% belonged to Organisation 1 and for a certain period organization 1 had to return back the money with interest. Same is the case with another highway project a country X came with finances said XYZ will be the contractors and defined its own parameters.

All the respondents stated that there was a dire need for finances for infrastructure projects and they felt that the organisation should capitalize on investment opportunities put forward to them and go for direct negotiations. Instead of unnecessary delays in going through whole the process of procurement and capitalize on business and investment offers as well as getting a facility and an infrastructure asset. Majority of the respondents stated that if the organisation 1 wanted to develop infrastructure they should bypass the procurement process and procedures. The reason given was that the market for PPP was not that much developed and they should go straight for direct negotiations and avoid unnecessary delays of procurement procedures but this was not the case in organisation 1. It was reported that they recently got an offer from an XYZ Ministry of Government of Pakistan to make an XYZ bridge as it was near one of their sites and it would improve their performance and production if they had a bridge constructed. They offered to pay X amount of money instead of capitalizing on that offer a debate was going in the organization whether to do it on BOT or something else and the Ministry should bare the whole cost of the project and should give them more money. All respondents thought that they should capitalize on the offer rather than squabbling over minor petty issues debating and wasting time and in the end lose the offer as well as the asset.

6.1.2.2 Timely Policy Decisions

All the respondents felt that infrastructure procurement selection largely depended on the policy and senior government level decisions regarding what to do in which project and which path to take and within this defined path they had limited options. This can be further elaborated by the fact that the government in cases of technically complex and specific projects asks a particular company which is the only company that can handle the

complexity of the project for example earthquake emergency projects. Another example given by respondents was if the project is in such an area that is strategic area or for instance where finances come from a particular country. As a respondent stated that “it all depends on the policy and the specific conditions at the time”. Another respondent gave an example of a bridge project in their organization. The bridge was damaged the organization first decided to repair the bridge, then decided to make a new one and in the end they said they shouldn’t abandon the old bridge so a timely decision was found to be very important.

6.1.2.3 Clarity of Client’s Needs

Another problem that all respondents felt common to organization 1 was what to design and they felt that the organization as a client was not always very clear on what they wanted. The respondents felt that client needs to be very clear what to make or construct. The design issues were quite complex in Organisation 1 and the respondents felt that the organization as a client needed to be competent enough to make technical decisions because when they go to the private sector they needed to be very clear on what they wanted to construct. The respondents also felt that the organization needed to make timely decisions on what they wanted made and how and how much would it cost to make it which unfortunately was a problem in organization 1. Another aspect that came out regarding organization 1 was that the organization was not very clear on the potential of their projects when it came to PPP projects.

6.1.3 Issues in Procurement Implementation

6.1.3.1 Risk And Contract Management

Risk management, risk identification, assigning value to risk was done in Organisation 1 at the planning stage. They have a standardised concession agreement in which it’s defined which risks are borne by which party. They also do a commercial feasibility where they identify the risks and assign them. Typically its done in way as stated by a respondent that “we ask the private sector that since you are bringing the money the risk for money is yours also since you are designing so the design risk is also yours, you will

be doing the construction so the construction risks are yours as well and since you will be doing the operation so you will also take on the operation risks as well. You will be collecting the toll so the toll collection risk is also borne by that party". It all depends upon the private entity intending to go into PPP with the organisation and they are free to say which risks they will take on and which they can't take on or won't take on. It was reported that usually the private sector was very reluctant to take on the demand risks. They prefer to design it, construct it and operate it but they won't take on the demand risk. There are certain risks which the organization takes on itself for example force majeure risk is taken on by the government. All these risks are identified in the feasibility and during negotiations the private party tries to transfer some risks to the organisation while the organisation tries to do the same. The respondents reported that there is a practice and a continuous battle of trying to transfer as much risks to the other party in case of PPPs. But the respondents felt that in PPP it needs to be a balanced approach transferring of risks unduly on each other was not good for both the parties and resulted in failure for both the parties. It affects all and in the end it is a loss to the construction industry, it damages the investment in the country and is a loose-loose situation for everyone. As one of the respondent stated "tomorrow no one would invest in Pakistan if we have failures due to unjust risk sharing and transfers. Just as the case in Hungary in which they did a motorway on PPP and what happened later was that no traffic came on the motorway, concessionaire went in default and later the government took over that motorway and declared that it's a major success that we didn't give a single penny and we got a motorway project from the private sector. But it's not fair as they took the money and they took the facility as well! It was due to this unfair attitude that as a result no one invested in Hungary anymore for 10 years". The respondents all were in consensus that there needs to be a balanced approach on both sides.

The Organisation 1 allows changes to the standard contract agreement and concession agreement, "we do minor amendments according to the powers vested in us" as stated by one of the respondents. But it all depends on the situation sometimes they get political pressures as well as internal

organizational pressures. As result of it sometimes certain risks are increased on the organisation's end as they take them instead of the private sector. And sometimes the private sector is not capable to handle the risks so the organisation takes on more risks on itself. But when the project is taken to the market they try to standardise the risks so that everyone can come on equal footing on it as reported by the respondents. Also it has to go through their various approval processes of going through the legal section, consultants and other concerned sections and the approval forums necessary.

6.1.3.2 Principles of Procurement

Regarding principles of procurement in case of Organisation 1 the respondents felt that transparency, competition and accountability are more important. The respondents reported that they did procurement in a transparent manner; they are accountable for the process so accountability is there, also in most of the cases they follow competitive bidding process hence the process has competition. The respondents felt that generally with competition they get better value for money although competition did not apply in the case of project A and B but as one of the respondent stated that "in other cases when we have more than one bidder for example A, B, C than of course we go for value for money i.e. among them which gives us more for our money give us more benefits, give user more benefits give project more benefit as well... this is quite important for us". The respondents stated that even in the case of one bidder they compare it with their own commercial feasibility which is a baseline principle for them to see to which extent does the bidder differ from it.

6.1.3.3 Political

Political factors have a major influence in Organisation 1 which is external to the organization. The instable political environment of the country, instability in policies and use of political pressure and influence etc. all have adversely affected project procurement as well as implementation in organization 1. Plus the political instability has caused many other problems most importantly has not let the organization to become mature. One of the

respondents states that “in my opinion political factors are the most severe to influence”.

The respondents stated that in case of organization 1 the major cause of problems was political interference and political will. ‘Political will’ can be understood from the following example given by the respondents that when they award a project and there is no political will or political backing behind the project than that project can not go further and hence can not progress. Political will is very necessary for projects in Organisation 1 to succeed. The organization has terminated many projects and ended up in long litigations with the contractors as a result of lack of political will. Political support of and from both the provincial and federal governments has become a requirement for Organisation 1 to successfully carry out intra-provincial as well as other projects. It has also been noted that politically well-connected individuals and corporations usually get projects awarded on a less than full competitive basis.

The framework for PPP transactions at both federal and provincial levels and exposure to political and regulatory risk over a long PPP period are still remaining constraints in Organisation 1. The respondents gave an example of a recent case of well publicized motorway project that symbolizes the exposure to political risk and cast a heavy cloud over the Government ability to complete PPP transactions. The respondents felt that due to the lack of a cohesive government policy and strategy the management of PPP process could not be protected from political risks.

It has been reported that for organisation 1 attracting private sector finance and to optimize its financial, socio-economic and political advantages is an important factor. At the same time this is a complex task but is the responsibility of government and the organisation. The respondents also reported that political factors affect the investor’s perception of political risk, which is very high. There is a need for more government support which will help the investor’s financial position but the real benefits from the government financial commitments will be the political will of the government to the lenders who are insecure about the project political viability besides the financial and technical insecurity. That is why lending to

projects in organisation 1 has been difficult due to perception of high risk due political interference for toll setting. This risk is leading to shorter than ideal lending terms and /or a risk premium (higher interest rates). The higher cost of borrowing due to risk is than passed on in tenders to the project costs and thus to toll rates.

6.1.3.4 Inter and Intra Organisational Issues

Bureaucratic Procedures

Among organizational issues identified by the respondents all respondents agreed that the major barrier to procurement implementation was the bureaucratic procedures followed by the organization. They felt that it is because of these procedures that no one wants to take the responsibility for decisions and is a major cause of time delay. One respondent stated that “I think this is the most important barrier plus no one is willing to take the responsibility they just don’t want to take risk and try to transfer it to someone else. It consumes time and makes delays in decisions”.

Crossing Over of Domains of Responsibility

In the organisation each section or department of this organisation is responsible for their phase for example planning department is responsible for planning, construction department is responsible for construction phase and so on. The usual problem is that when the Project Director (PD) is appointed there is a big debate in the organisation under which section's General Manager does he or she report to as initially the project is in the planning phase and after that it goes to the construction phase because the project shifts from phases. This crossing of domains of planning and construction causes problems. That’s the dilemma they face that who is in a better position to implement the project? The crossing over of domains of planning and construction created friction in the the organization which adversely affected project implementation. As one of the respondents stated that “I personally feel if the planning guys jump into the domain of construction than their own work suffers”.

Maturity and Development of the Organisation

The respondents reported that presently the organization has not truly developed an understanding of the sense and essence of a Public Private Partnership (PPP) project. At this stage they are still unclear about what decisions lie in realm of public sector domain and what decisions lie in the private sector or contractor's domain. Also at this point the capacity has not developed with in the organisation to properly implement PPP or other forms of procurement. The Organisation since it has become politicized and bureaucratic, its not strengthen enough and neither mature enough to fully absorb these new changes in procurement. Unless the organization becomes more mature, less bureaucratic and politicized the respondents feared that it's not enabled enough to adapt to new changes. One respondent stated that "the organisation needs to be mature, professional and have high confidence levels, have enough experience and also have the capacity enough to achieve and adapt to new changes". There needs to be a lot of factors present first to adopt these changes in their organisation at this stage they are not possible. At this stage they just follow the directives of the government but the organization does not have its own capacity, capability and maturity it is not enabled enough to handle it. The organization has yet not matured enough to sustain the external and internal forces as the organization has not developed its own champions and has not attained that level of maturity that the respondents felt is required. The respondents reported that the practice of procurement in PPP in organization¹ as well as Pakistan needs to be standardized that is very important at this stage. The respondents felt a great need to have standard operating procedures, they needed a good framework and having a very clear policy was very important to them.

Need for More Autonomy

The respondents reported a need for more autonomy for improving procurement practice and process. In the organisation the procurement unit is not independent in making its decisions so they have to go through bureaucratic procedures, red tapes and delays to get decisions and approvals. One way suggested by respondents could be to separate the procurement unit from the organization itself and make it a separate

independent organisation capable of making its own decisions. Such a similar thing has been done in the power sector in Pakistan and it is doing well. In this way they can avoid bureaucratic channels and processes and avoid time delays while get more done in the same amount of time and get timely decisions. As stated by a respondent “more autonomy for this unit would in my opinion improve the procurement practice and would achieve successful project outcomes”.

6.1.3.5 Culture

In terms of public sector and organization 1 the respondents stated that they deal with the private sector as a typical "Thaikaydar" which is an Urdu language (national language of Pakistan) word meaning contractor. Contractors or “thaikaydars” are viewed in the public sector as people who will do anything to get the job or contract and are viewed as having no moral scruples and considered beneath. The respondents reported that this type of view is the dominant culture in their organization and the public sector at large. They feel that it is the wrong attitude towards an investor instead they need and should welcome such investors but that is not the case in Organisation 1. One respondent states “we should go out of the way to welcome investors as they have other business opportunities in other countries as well and if we don't treat our investors the right way we might end up not doing business with them and lose the investment and the project. They can take their money somewhere else”. The way they treat private sector in organization 1 and in Pakistan it is not the right way to treat the private sector or any class of society for that matter it is ethically wrong, a respondent felt that “we have a psyche problem, the way our organisation is it doesn't have that kind of grooming and it hasn't done the absorption of private sector as it should have been”. The respondents stated that may be the reason why local private sector as well as international level companies are reluctant to come to Pakistan and their organisation and do business with them. The respondent's state that in Pakistan and organization 1 the culture has not developed as it should have it is a problem on both sides i.e. public and private sectors. They feel that when substantial numbers of projects are done through PPP and the conditions

with in Pakistan become better the culture so will hopefully also be more developed.

6.1.3.6 Lack of Understanding of PPP

Since PPP has not much developed yet in Pakistan and not many people are aware of the concept of PPP and how to implement PPP. Many are unaware of what is a concession agreement, what is the role of the agency and the company. All because of these the respondents felt that their role crosses over to all the three phases that is planning and development, construction and operation and transfer. Plus among PPP the most popular is the BOT and that's why people tend to mix PPP with BOT in Organisation 1 and in Pakistan. PPP is basically an umbrella and under that umbrella there are different options. Also at the moment the organisation has not developed the sense for what is a PPP that's another problem they are facing and as mentioned earlier they have that problem of "Thaikaydar" (contractor) attitude that they deal with or treat private parties. The private sector here in Pakistan is also not very much educated to fully understand what PPP is for example the respondents stated that they cannot go in the design domain of the private sector but private sector insists that Organisation 1 enter in the design domain for them. The respondents reported that they can only broadly guide them (private sector) of what is required and how to make it the detail designing are their (private sector) responsibility and their issue. Also how they get finances for it is their issue, how they construct it is their issue, organisation 1 just requires the performance of the project. The respondents stated that at this point in time the capacity has not developed with in their organisation as well as the private sector to understand what PPP is, what its complexities are, what the problems are and how to tackle them. Also how to treat it i.e. how it should be treated by their organisation and how private sector should treat it.

6.1.3.7 Regulatory & Legal

Although Organisation 1 have not gone in any litigation with in the two case study projects selected but Organisation 1 has been in litigations quite sometimes because of the problems elaborated above such as delay in

decisions etc. Litigation basically ends in lose-lose situations for all the parties involved. Another reason for projects to end up in litigation is the problem of political will as discussed above. Sometimes there is personal interest or technical difficulties or faults which can be the reason for litigations. The respondents felt that there is corruption and presence of practices which can be deemed to be corrupt practices within public sector and construction industry in Pakistan. One reason that nothing can be done about it is the presence of a weak legal regulatory frameworks and systems. In the absence of weak regulatory and legal systems and the level of corruption going on in the country and construction industry the organisation is unable to effectively implement their projects.

6.1.3.8 Conditions of the Country / External Environment

In case of the conditions of the country be it economical, political or law and order or other the respondents felt that they are pretty much helpless to do anything. They try to prepare the project properly, prepare its documentation properly and do proper marketing for it. According to a respondent “so what is the choice in such a situation you can either decide not to do the project if you decide not to then the user is the one who is effected as in the end user is the one utilizing the facility and does not get that facility”.

In Pakistan people don't have the confidence to initiate investment in infrastructure. The respondents suggest that what they need to do is build confidence in the private sector both domestic and international to invest in infrastructure. For effective implementation of different forms of procurement in Pakistan the respondents stated that the current situation of the economy, the instability of the political scenario, the immaturity of organizations and institutions and law and order situation or security situation is not conducive at the moment to implement other forms of procurement. Plus no one has the confidence in the government be it the masses or the private sector both domestic and international. One respondent stated that “if no one has the confidence or there injustice then its very hard to get investor confidence so these things we have to improve if we want to effectively implement other procurement forms in our organization or Pakistan for that matter”. Another respondent stated that “the environment at present is basically not

absorbing change, the people are not absorbing it the management is not absorbing it as they should so I would suggest the environment is not enabled enough for the changes that need to be absorbed to be fully absorbed. The culture is not yet enabled.” The environment is not very conducive with relevance to PPP either because of the factors mentioned above.

6.1.4 Impact of Procurement on Successful Project Outcomes

The respondents stated that since procurement is front end of the project and if proper planning is done for procurement then most definitely the project outcome will be successful. They further stated that the procurement systems in their organisation had a direct relationship and impact on performance and success of the project. One of the respondents stated “if we don’t plan the procurement well then achieving the desired objectives and aims of the project would be very difficult that’s why we try to plan the procurement as best as possible to avoid complications later in project implementation”. The respondents reported that to them success is when the project is constructed and completed and to meet the objectives of the project. Respondents believe that to make a profit or loss to the private sector or the public sector is another story but when the main objectives are completed that is success to them.

6.1.5 Case Study Project A

6.1.5.1 Issues in Procurement Selection/ Choice

6.1.5.1.1 Delays in Biddings and Response

The choice for procurement of this project was that of Public Private Partnership (PPP) under the build-operate-transfer (BOT) mode. In the case of case study project A the project is a construction and operation of a services area along a motorway. The project was advertised initially with 4 service areas for expression of interest (EOI) in September 2008. In response total 19 firms showed interest and submitted their documents for prequalification. Out of 19 only 12 firms / joint ventures were pre-qualified by Organisation 1. Out of the 12 only 10 pre-qualified parties procured the request for proposal (RFP), but none of the firm / JV submitted its proposal till an

extended date in February 2009. The Proposal submission date was further extended up to March 2009, but organization 1 did not receive any proposal or response. The project was again advertised for EOI for 2 services areas in June 2009. Following which 3 firms submitted their proposals, within due date i.e. July 2009. Out of the three firms 2 were non-responsive and only one responded and submitted a proposal. And finally after 2 years of initial advertisement the concession agreement was negotiated in February 2010 and the contract was awarded.

6.1.5.2 Issues in Procurement Implementation

6.1.5.2.1 Principles of Procurement

The respondents reported that the process was transparent and they are accountable for it under the law as well as rules and regulations of the organization. The project was intended to start with competitive bidding they got 3 bidders but all were non-responsive except one as mentioned earlier above. Value for money does not apply in this case as reported by the respondents as they had one bidder. But even in the case of one bidder they did compare it with their commercial feasibility which is a baseline principle for them. They compare it with that to see to which extent does the bidder differs from it.

6.1.5.2.2 Risks and Contract Management

They have a standard concession agreement as discussed above. They used the same concession agreement with the private organization in which they have defined risks and the party that bares the risks. In case of project A the private organization has taken the risks for financing, designing, construction and operation. The Concessionaire shall pay to the Organisation 1 during the concession period lease money calculated on the basis of percentage of revenue after deduction of financial charges before payment of taxes or the Minimum Guaranteed Lease Money (total Rs 250 million), whichever is greater. Organisation 1 has used third

party consultants along with in-house expertise for vetting the legal and financial aspects of the concession agreement and financial proposal.

6.1.5.2.3 Security Situation

The major problem facing this project during procurement as well as its implementation was the security situation of the country. As a respondent stated “in case of this project when we prepared the project it was a financially feasible project but when we took it to the market then at the time the conditions (law and order & political) in the country were such that we did not get the positive response we intended”. As a result of it the project took two years from initial advertise to final award as mentioned above. Still the project is facing problems due to the same fact in its implementation. The respondents felt that in case of case study project A the situation in country was not stable otherwise it is a very good project. The location is very good the blue wasters of the Indus in the middle of the motorway making a service area it is quite a good project and is quite feasible. But when they went into bidding the situation of the province and area become worse there were fears of Taliban coming very close to Islamabad and whole situation went from good to worse in a matter of days. A respondent stated that “It was not the right time to do the project”.

6.1.6 Case Study Project B

6.1.6.1 Issues in Procurement Selection/ Choice

6.1.6.1.1 Timely Policy Decisions

The choice for procurement of this project was that of Public Private Partnership (PPP) under the build-operate-transfer (BOT) mode. In the case of case study project B which is a tunnel project, it started off with open competitive bidding and ended up in negotiated bidding. The reason given by the respondents was that the Central Development Working Party (CDWP) of the Planning Commission of Government of Pakistan which is a policy level body of the

government decided that Organisation 1 should go in negotiations with a Military construction organisation of Pakistan for the project. The background to this policy decision was due to the location of the project, the project was location was a challenging one it was in an area which was strategic and where law and order as well as the security situation was quite worse. The CDWP deemed that this Military Organisation had the necessary capability and manpower to better manage the project. A respondent said that “I guess it would have not been possible for anyone else to do the project there”. Hence the company selected on competitive bidding was abandoned and the Military organization was asked to make a proposal for Organisation 1. On the basis of this proposal evaluation was conducted and Organisation 1 went for the award of the project to the Military Organisation.

In case project B the main problem that they faced was that when Organisation 1 made a policy decision that they have to take the project on open competitive bidding. When they had to go back to the government for approval the government directed not to go in open competitive bidding and to go for negotiated bidding as mentioned in paragraph above. As a result they were back to square one and had to do rework, the project suffered almost 2 years time delay. A respondent suggested “if at the government level and policy level a timely decision was made that either we had to go for negotiated bidding or open competitive bidding we would not have lost two years. We could have saved our time and the private sectors time as well plus we would have done quite savings on the cost as well. In two years the cost of escalation on price of materials of construction went up quite substantially”.

6.1.6.2 Issues in Procurement Implementation

6.1.6.2.1 Principles of Procurement

When asked about principles of procurement the respondents stated in this particular project there was no transparency and

accountability due to strategic location of the project as a result of which they went in negotiated bidding with a military organization as directed by the government and mentioned earlier above. "But of course we achieved the value for money as if we did the project from Public Sector Development Programme (PSDP) it would have costed us much more as we did the project on Rs 680 Million if we had done it through PSDP it would have costed us RS 1.5 Billion" according to one of the respondents. As a result for value for money Organisation 1 went for PPP option for this project. Another respondent stated "so we got best value for money as we got a tunnel and road for this much money". Although it costed the Military Organisation more but as Organisation 1 got better value for money.

6.1.6.2.2 Risks and Contract Management

They have used their standard concession agreement for case study project B as well. They used the same concession agreement with the Military Organisation in which they have defined risks and the party that bares the risks. In case of project B the Military organization has taken the risks for financing, designing, construction and operation and toll collection.

6.1.6.2.3 Right of Way (ROW), Land Acquisition Issues

The Right of Way (ROW) which was the responsibility of Organisation 1 as per concession agreement has not been handed over to the Organisation Implementing the project resulting in legal issues. Also in land acquisition the Organisation 1 has not yet paid its share of Rs 7.3 Million due to which the project has been delayed and the implementing organization requested for extension of time for completion (EOT).

6.1.6.2.4 Toll Implementation and Revenue Issues

The toll rates, in line with Financial Model of the project have not been implemented till to date due to law and order situation and interference of local civil administration. Present toll revenue cannot

even meet the operation and maintenance (O&M) expenses of the project. Low toll rates, low traffic volume and high rate of interest has complicated finances of the project. The Military Organisation suggests that Organisation 1 either buy back or renegotiate the finances with them.

6.2 Organisation 2

6.2.1 Procurement Selection/ Choice

In this Organisation there are two different methods of procurement that can be described as non-traditional procedures. The thermal power projects are procured on Build-Own-Operate (BOT) basis and the hydropower projects are procured on Build-Own-Operate-Transfer (BOOT) basis. As one respondent reported that the projects in the power sector that is the Independent Power Producers (IPP's) projects there are two concepts currently being practiced in the organisation and Pakistan i.e. BOO and BOOT. In Pakistan and the organization the regulatory requirement as per policy states that the thermal power projects are to follow and be implemented by BOO method. The reason being as reported by the respondents is that at the end of usually a 25 year term the value of the assets i.e. the thermal power plant is very nominal so it didn't matter to them if the asset is transferred to them or not so they prefer BOO plus in case of BOO they don't have to do equity redemption as well and because of it the tariff to become lower. The respondents reported that BOOT is used in the organization as stated earlier for hydropower projects since hydropower projects are also are strategic assets in Pakistan and have to be transferred to the Government. This is another reason the respondents reported that hydropower projects are more costly as they have to do equity redemption at the end of lease term when transferring the asset.

The respondents also reported that currently their organization is looking to adopt a new method as one respondent stated "to develop coal resources of Pakistan serious efforts are afoot. A task force under the President of Pakistan is rigorously following a plan to fully exploit the coal resources especially the X Coal reserves. The Y provincial Government and this organisation are also in good liaison to develop coal resources. Many memorandums of understandings (MOUs) signed in this regard promise a bright future for the brown coal". Also

the respondents stated that this method will involve an integrated coal mining and power generation. The return on investment made on dedicated coal resource for power generation and investment made in integrated projects to be recovered from tariff. As a respondent stated that in the case of coal power they have a different method of procurement on the table at the moment, because the current methods do not fully accommodate Pakistan's coal resources. There are a lot of coal reserves in Pakistan but there is certain technical drawbacks in that first infrastructure to those areas in Pakistan is not good and barely even exists secondly the local know-how is less thirdly the coal available has more sulfur impurities. For developing a coal resource needs huge quantity of water and water availability is not at an economical depth in these locations. There are 2 parts to this method as reported by respondents one is the mining part and the other is the power production part. One respondent reported that "the coal resources have not yet been mined if mining was there than it was not a problem all we had to do was setup a power plant and supply the coal and we get electricity. But now first we have to mine the coal and then setup a power plant and then get electricity. If just mine purely for the power plants and projects than the tariff becomes very high and unfeasible and we cannot accommodate it. So if we first mine then do the power projects it could be a good solution but if we do this and no investment comes or no interest is shown then it's a loss to us". Both these activities require simultaneous investment and the organization as well as the government has decided to these two activities in tandem i.e. the development of the mining part to be done at the same time as the development of the power production part. The respondents felt that to cater for this purpose there were some issues the expertise of mining is specialty of one group people or companies and the power is the specialty of another group people or companies. The respondents reported that they are going for and trying to arrange and encourage joint ventures between different companies whom in an integrated way come to do the business with and do the mining as well as power production together. For this purpose the respondents said that they have divided the whole of the area in blocks and they want to allot or award one whole block to one group of companies. Although in this way there is no competition in it and it is a direct method in which they have invited big companies and famous companies across the world by themselves to do these projects in joint venture with them.

The respondents felt that once the mining part is developed the company can then sell coal to other power plants in the country and develop other blocks as well.

6.2.2 Issues in Procurement Selection/ Choice

6.2.2.1 Need for Efficiency and Finances

The respondents stated that power shortage had been one of the chronic problems hampering Pakistan by 1994. As one respondent states that “the problem had become such that power supply fell short of demand by almost 2000 MW during peak load hours”. On a routine basis, this resulted in forced interruptions in the supply of electricity to consumers during peak hours resulting in load shedding which is common household phrase now in Pakistan. Another respondent stated that “the unreliable power supply shattered the industrial progress”. The respondents stated that there was a gap between demand and supply due the rapid increase in electricity demand (estimated to be growing at a rate of 7-8 % per annum at that time). This situation called for immediate intervention by the GOP through adoption of policy measures aimed at massive resource mobilization for investment in the power/energy sector. The enormous quantum of required investment compared with the constrained funding potential of the national exchequer, was not conducive to allocation of scarce GOP funds for energy. The respondents stated that if power sector projects were implemented through the public funds, “they would absorb a significant portion of national budget allocation” as said by one of the respondents. Another respondent stated that “the allocation for new power projects surpasses the cumulative allocation for health, housing, education and agriculture sectors in Pakistan. Therefore, in order to save governmental allocations of funds for these vital sectors, private sector investment has been sought in power sector, as one respondent stated “to install a mega watt project you require around US\$ 2 Million in any case”. Also the respondents felt that private sector was much more efficient in running and doing projects than the public sector. The respondents felt that the private parties are more efficient than the government organizations and one of them stated “public sector is more casual in their attitude towards the project as no personal money of theirs is involved in the project while the private investors personal money is

involved so any delay encountered it matters more to the private investor than to government officials or organisations". All of the respondents stated that realising these two factors led to the creation of the Organisation by the Government of Pakistan. The respondents felt that the need for efficiency and finances are the main issues for choosing a certain procurement method in their organisation. A respondent stressed on this fact and stated that "we check the financial aspect of the company and 70% marks and weight is given to the finance side and 30% weight is given to the technical know how, expertise and experience of the company". The minimum equity requirement for an Independent Power Producer (IPP) in Pakistan is 20% of the total Project Cost and should have at least 1.5 times of the equity as net worth. A respondent gave a hypothetical example "for instance there is a project which require US \$100 Million to develop US\$ 20 Million will be equity and the company should have US\$ 30 Million at least net worth. This aspect carries 70 % weight and the rest 30% is based on technical know how and the company should have developed a similar project any where in the world as a developer, contractor or as an owner".

6.2.2.2 Proposal/Bidding Evaluation Procedures

The respondents explained the procedure by stating that once a party shows interest in a project then they purchase the pre-qualification document from the Organisation. And under the policy requirement all the relevant stakeholders that have a direct stake in that project jointly evaluate the pre-qualification document which the company provided in response to the Organisation's standard pre-qualification document. One respondent reported that "there are many structured format and requirements in our standard PQ document". The company or party interested gives the information to the Organisation where a team or committee is constituted to evaluate it that includes all stakeholders from Government side. The committee evaluates it and under the procurement rules there is a minimum threshold if the sponsor information qualifies that level they award the project. As per policy and procurement rules they first issue or award a Letter of Interest known as LOI. Under that the sponsors conduct a feasibility study if it has not already been conducted, once the feasibility study is completed the sponsor is to go for tariff finalization with the power

purchaser once they have completed that part than they were issued LoS i.e. Letter of Support. After LoS the agreements are finalized i.e. the three agreements; the implementation agreement, the power purchase agreement and the water use agreements is case hydropower projects and fuel supply agreements in case of thermal power projects. After this the sponsors directly approach the various lenders (banks and institutions). This is broadly the procedure used in procurement of projects in this Organisation.

There are three different procedures for selection of private party or bidder which are described below along with the issues of each.

First Come First Serve

The first procedure for selection in the organization as termed by them was known as the “first come first serve’ although this method has ceased to exist with the approval of new power policy in 2002 but prior to it this method was the recommended method for selection of potential bidders or private parties as per the 1995 power policy of the Government of Pakistan (GoP). Basically as the name states in this method in 1995 the Government of Pakistan’s aim was to attract investment in power sector and to avoid a discouraging response they would offer the project to the first bidder who showed interest in the project provided that bidder or party would fulfill the minimum requirements for award of the project. This practice was discontinued in 2002 when the new power policy was approved by the Cabinet; the reason reported by respondents was that this process had a few major drawbacks. Firstly the respondents felt that in this procedure when more than one company was interested in a certain project in that case sometimes they received 3 to 4 expressions of interests and had to sort them as first come first serve. But they realised that under this method sometimes they awarded a project to a company which afterwards proved that it was not competent to do the project but because of achieving the threshold level or limit of the passing marks they got it and being first to send its expression of interest so they had to serve it first. The respondents also felt that maybe the other company who had submitted an expression of interest later than the first one was more competent than it and could have better managed the project but they could not consider it as it did not apply first so could not serve it. Secondly the respondents reported that they

observed that certain parties would apply for more than one project at a time and would block the processing of projects since they have applied first they had to be served first and until a decision was made the second applicant could not be processed. This wasted time and cause delays as well as the other applicants would loose interest due to this delay.

Competitive Bidding

The second procedure for selection as reported by the respondents is through advertisement and competitive bidding. Firstly if the feasibility study of the project is already available the organisation calls it as solicited site (as already discussed in detail in chapter 4) and they perform ICB (International Competitive Bidding) and the criteria is the lowest tariff that is the company who offer the lowest tariff for the project that company is successful and usually the project is awarded to that company. Along with the lowest tariff they also judge the quality and credentials of the company as well so as to avoid delays in project execution. The respondents felt that if the feasibility study is there than as per policy they have to go for solicited sites and cannot then opt for any other procedure besides it because as per policy it is mandatory for them to follow this procedure/ method. The respondents felt that within this method there are certain barriers but they are standard a respondent gave an example that “in solicitation sometimes it could be like that the feasibility study which is the base of that solicitation is not a fresh one or may be obsolete or maybe done by not a well known or renowned consultant these are the aspects that could be there but again all these things are rectifiable”. Another barrier that the respondents felt was that there could be due long gestation periods, financial and liquidity issues internationally there could be not so big a response to projects in power sector in Pakistan. Lastly the respondents felt that there is a big possibility of existence of cartels at international level and manipulation of tariffs and monopoly.

Secondly for those projects whose feasibility study has not been carried out by the Organisation so the Organisation offer these projects as solicited raw sites. Since solicited is defined word in the policy and un-solicited projects have been ceased by the Organisation. As one respondent reported “since

solicited has defined and specific meaning in the policy so we call them as solicited advertised raw sites. Since we offer the projects and we advertise them that's why they are solicited and un-solicited projects are those projects which are not in our portfolio but are identified by a private party to us we have ceased the practice of unsolicited proposal and projects". In this advertised solicited raw site projects they check the financial aspect of the company and 70% marks or weight is given to finance side and 30% weight is given to the technical know how, expertise and experience. And there is a certain threshold and if the company achieves that threshold they call it as pre-qualified and since it's a competitive procedure more than one company that can be pre-qualified. In that cases then they have a mechanism of ranking the company who has the best credentials among the pre-qualified they offer the project to that company. One respondent reports that "if in case the company is not able to full fill all policy requirements such as bank guarantees and get permissions consents etc then we offer the project to the second ranked and so on and so forth. But till now most of the projects have been picked up by first ranked companies and one or two instances we offered to 2nd ranked as the 1st ranked was unable to satisfy all the policy requirements but we have never had a case that we had to go for the third ranked company". In case of solicited raw sites the problem the problem that the respondents felt that their judgment was totally based on the finances of the company mostly. To elaborate it further a respondent gave the example that once in a project the company had the necessary finances at the start of the project but they had other projects and business in pipelines across the globe and the money was spent on their prioritization of investment of finances. In that case the project started off well but the company had other financial obligations and due to their internal prioritization of finances the project did suffer eventually. As they were implementing different power and pipeline projects in different countries simultaneously and the company prioritized their finances based on first priority and concentrated on pipeline projects than priority was given to oil fired thermal and afterwards gas fired thermal projects then wind power and lastly hydropower projects. Since it was their company so it was their priority, the norm here that the respondents felt that both at international level and in Pakistan that power particularly hydropower projects are made

to linger own for various reasons. In short the drawback of this method is that they do not cater or count for the other businesses of the company and they feel that they should have a mechanism to address this issue. As one respondent state ‘the net worth of the company is whole it does not show which money is for which expenditure’.

Fast Track Method

Under the current supply and demand gap of power in Pakistan the respondents reported that the Organisation has recently set up a third procedure which is also advertised and through ICB. Why ICB because the financial capacity in the local market to satisfy financial appetite of hydropower power projects. As one respondent state that “recently due to gratuity gap and the supply and demand gap of the power sector in Pakistan to speed up the procurement process we have introduced a third quicker method that is based on No.1 in controlled time we are able to implement immediately getting the power in minimum possible time No.2 even for that purpose we allow second hand and used equipment for instance if a power project installed anywhere in the world they can dismantle that project and equipment and come here and install the same”. The respondents stated that availability of the equipment new or old is one criteria third and most important criteria is to connect with the grid in minimum possible time and fourth is the tariff that is the lowest the company who offer lowest tariff. As one respondent state “if they fulfill these conditionalities we give the project to them and we term them as fast track projects”. The respondents felt that although it was the need of the time to follow this method but they felt that it could perceived as un-ethical due to non-competitive nature and other relaxation of rules of the procurement. As one respondent states “we upfront relax a number of conditions and formalities for the company for example we ask them there is no need for doing feasibility study and there is no need of showing assets etc we just say go ahead with power generation”.

6.2.3 Issues in Procurement Implementation

6.2.3.1 Risk And Contract Management

There are four sections in this organisation namely project section, finance section, legal section and administration section. Basically project processing, procurement and technical matters as well as overall coordination is handled by the project section. Finance related issues such as tariff etc are handled by the finance section. Legal section advises i.e. the project and finance sections on contract related matters and gives them professional and legal advice on contracts although they finalize the contracts as well but they do not say do contract management as reported by the respondents. While administration section is responsible for the organisation's day to day administration. All the three sections that is the project, finance and legal sections they do contract management in coordination with each other.

The respondents stated that because most of the projects are internationally financed projects and banks and other financial institutions are very sensitive to their money so they safeguarded each and every aspect of the risks. The organisation has a mechanism of three agreements one is the implementation agreement that is called IA then power purchase agreement (PPA) and then water use agreement (WUA) in case of hydropower project the same is replaced by fuel supply agreement (FSA) in thermal power projects. IA is from the government of Pakistan and the Organisation side, the PPA is from the power purchaser side and WUA is from the provincial government because water is ownership of the provinces and the FSA is from the fuel supplier. The respondents reported that all of these agreements are signed with the private parties and the respective parties from Government side have agreed and covered certain risks while fuel supplier which is not necessarily a government organizations signs the agreement with the private party or sponsor. One respondent while tale about the WUA stated that "there is a risk that when a project is constructed on a certain stream Provinces have the right on water and can divert or pond the water from this stream to another before it reaches the power house. So the provinces provide full cover to this risk as this a major risk to

the company and the project and can severely affect the performance of the project and its generation capability". The respondents also reported that the provincial government is entitled to make new laws but in WUA they provide surety that they will make no law in the future that will adversely affect the project and if it is necessary to pass a law that affects the project they will compensate for it. Also the respondents reported that the power purchaser can do certain acts that may affect the project in an adverse manner. A respondent gave an example that "if the transmission line is down which is the responsibility of the Power Purchaser then the power generated by the project cannot be utilized this risk is covered by the power purchaser if such is the instance they will in anyway purchase the power from the project and the project is safeguarded". The second example given by a respondent is "if the demand is less but the project is capable and ready to generate, then the power purchaser safeguards the project from this risk and takes this risk on itself and the units for that period which are deemed to be generated, the power purchaser pays the agreed amount for those units in any case". The respondents also gave example of coverage of political risks although it is not directly the act of the power purchaser but due to certain other act and as a result the company is not able to perform and is not able to generate electricity or due to any act beyond any reasonable control of the project or company, or sponsor power purchaser will honor that and pay the agreed amount to the company. All the respondent stated that above all is the Government of Pakistan and there certain laws that the government of Pakistan can make so again in implementation agreement Government of Pakistan gives guarantees that it will not make any law that will adversely affect the project if in any case they had to make a law that will be compensated by government of Pakistan. One of the respondents gave an example of another risk if the power purchaser does not pay the project company money than in that case Government of Pakistan as an umbrella in implementation agreement also covers that risk. All political risk, all wars, forcemajeure, natural disasters etc are covered by the government. The respondents al mentioned that there is an aspect of liquidated damages a well if the company is not able to generate the agreed amount then the company has to compensate the government of Pakistan or the power purchaser but if the reason for non-

performance or poor performance are due to factors not under the control of the sponsor or project company than no damages are to be claimed or recovered.

As mentioned above in the case of thermal power projects instead of water supply agreement they do a fuel supply agreement. The mechanics of availability fuel supply and water supply is different as fuel is imported in Pakistan so the risk coverage are different and respective risk are covered in respective manner in the agreements. The respondents also state that the coverage of risks can be different from one fuel to another fuel but generally speaking the structure is same for all the documents. As one respondent states ‘this is our standard procedure and the contracts they have been drafted with the help of a US based company of lawyers and duly vetted by the Government of Pakistan at cabinet level as well and they are available on our website for everyone to use and see including investors’. The respondents also felt that the availability of a feasibility study also help project sponsors cover and manage the risk. For instance one respondent gave a hypothetical example “if the feasibility cost of the project is 100 Million US \$ and if the private party find an aspect or an item or risk that is not covered in the feasibility so they overload their proposal and cost for example say to US \$ 110 million could be the cost and on that basis they calculate and offer tariff to the Government and the party that offers the lowest tariff is selected”. The respondents reported that the Organisation has a balanced approach to risks and caters and facilitates the risk concern of the stakeholders involved.

6.2.3.2 Principles of Procurement

In case of Organisation 2 the respondents stated that the need for electricity and power is massive in Pakistan while financial resources are scarce. The major consideration for the Organisation is value for money because investing in power projects is a costly business for the Organisation and the country. The respondents stated that their evaluation process was wholly transparent as they had an evaluation committee of all the stakeholders for each project who evaluate the project in a transparent manner. No stakeholder is a party to the project and as one respondent stated “we never

allow anyone who is party to the project to sit in the evaluation committee and no one in the committee is allowed to interact with the bidding party. For instance if some consultant is directly involved in feasibility or some activity of the project we never allow that consult in evaluation of bid or proposal". The respondents said that for value of money they look at the credentials of the company, they check availability of reasonable amount of funds, and they also check the technical know how and knowledge of the business. The respondents ranked value of money the first, second transparency then accountability and competition. The respondents felt that with competition they get better value for money but not necessarily always the case as explained above in section 6.2.2.2. Although competition did not apply in the case of case study project C but the respondents and the Organisation prefer competition in general. Cost is the most important factor and lower tariff is preferred but at the moment their major concern is sustained power availability since Pakistan is suffering from severe power deficit. Although the regulator does not allow high tariff but overall their concern is power availability rather than the price.

6.2.3.3 Political

All the respondents felt that the political pressures are the only and most severe factor that is external to the organization and affects the organization adversely. The respondents reported that the political pressures are usually in such a way that they (politicians) want to influence on the procurement method of the project. As one respondent stated that "they (politicians) sometimes want us to award the project to a company which doesn't have the capacity to implement the project". Another respondent stated that "it is the only external factor that I am facing in procurement in my organization". The respondents stated that other organisations or other factors external do not affect them as much as political pressure. The respondents reported that there is no advantage of it there are only disadvantages. A respondent stated that "the transparency of the procurement becomes questionable for example recently the rental power (fast track) projects is good example and it's all over the news as well. As such there is nothing wrong with the projects but there is no transparency and competition in the process of how they have been procured which raises many doubts and questions".

6.2.3.4 Accessibility of Finances

All the respondents reported that the biggest barrier is the availability and accessibility of finances in implementation. Since power infrastructure are highly capital intensive the main barrier to their effective implementation is the Financing arrangements. As one respondent reported that “the most of the issues that come to us are mostly finance issues”. The respondents felt that the local banks in Pakistan had their own limitations when it came to investment in power sector as they have to manage their own portfolio of investment as well as they have less finances available as compared to international banks or financial institutions. In case of international financial institutions and banks the respondents felt that they have their own strict requirements. As one respondent stated “the major problems that I have noticed are financial problems due to which projects get delayed normally. If the financial close of the project normally was to be achieved in 6 months due to these kinds of issues it usually reaches financial close after 12 months or sometimes even more”. One respondent quoted with a saying in Urdu that translates to “you should sing the tune of the person whose food you eat” another respondent stated with an English saying “beggars cant be choosers”. The respondents stated that the reason for saying this is that Pakistan can dictate its own terms when it’s doing projects from its own resources but when it is getting money from others and international market they have to follow their rules and their terms and conditions. As another respondent reported that “they are very rigid with their procedures for instance when it even conflicts with the PPRA rules in Pakistan they do not show flexibility for our rules but since we borrow from them we have to follow their rules as the money was coming from them. I want to say that from Pakistan’s context mostly the infrastructure projects are financed by the international lenders so whenever a demand comes from international lenders that this side is not flexible to them so we have to force and make that side flexible to them. In a few instances some of our major and big public sector organizations had to be disintegrated to smaller units or even privatized because the lenders felt that they are not flexible for their interests basically. We have to yield to their demands and interests as it is also in our interest”.

6.2.3.5 Inter and Intra Organisational Issues

Bureaucratic Procedures

The respondents felt that their Organisation did not have any bureaucratic issues, as one respondent reported that “our organization doesn’t come directly under government influence and the employees of our organization are not regular government servants we are contract individuals so our company has the ability to give independent, unbiased practical and expert opinion. Since we don’t have to worry about the problems of annual performance reports in our careers as it is known in civil service as ACR which has to be written by bureaucrats and politicians and we are not transferable from one organization to another so the political bosses cant punish us by transferring us to far flung area and desolate locations and organizations”. Another respondent stated that “we don’t have the typical government bureaucratic style of moving files and then wasting time in file movement and delay decisions we also do project processing electronically and we are all connected with each other over the network and internet we also do paperwork as well I wouldn’t say that in our organization delays our due to our processing time or paperwork the system in our organization is quite efficient”.

All the respondents felts that there is always room for more improvement and suggested that there are certain areas and processes that needs further refinement. As one respondent stated that “I would say it would be possible to reduce the processing time much further for instance at the moment we are thinking of setting up a section or a unit and setting up a template similar to the PC-1 so that when a party or IPP comes to our organization they get that template for project proposal and necessary guidance and help in filling up that template to our requirements so we can further reduce our processing time”. All the respondents felt that they could further streamline the process so as to make the stakeholders such as the regulator and power purchaser etc time bound in making decisions. As one respondent said “for example say they have to process it in 15 days or within 1 month its must to finalize the contract or decision although at present time is allocated to do these things but no one is strictly bound to follow it”.

But when it came to dealing with other public sector stakeholders/ organizations they felt that it was an important impediment to implementation. As one respondent stated while giving an example regulator which is public sector bureaucratic organization that “in tariff determination the regulator normally takes much time for tariff determination and if it has issues with tariff with IPP then the IPP has to appeal and re-appeal and sometimes it takes quite long to resolve such problems”.

Maturity and Development of the Organisation

The respondents stated that initially when the organisation was raised it did have to deal with a hostile environment. But since 16 years of experience in non-traditional procurement has led to some changes and as one respondent reported “the initial turbulent period has passed. The misgivings and hostilities which occurred during the teething time and which was the result of inexperience on both sides of the fence i.e. IPPs and the Government have now been overcome”. The respondents felt that now there is a new rapprochement between the Government and the investors. After the announcement of the Power Policy 2002, the respondents reported that a very encouraging response has been received from the investors. The respondents felt that after much experience and learning the organisation has much developed and become much mature and our organization has changed and refined its way of procurement. As one respondent reported that “as finance is becoming scarce in Pakistan to fund projects so the organisations have to change to adapt to the shortage of finances for their projects otherwise they would cease to exist and won't be able to expand and will not have the ability to do more projects. We continuously are changing and we have a framework available in Pakistan”. The respondents felt that their Organisation's framework, policy and methods have been tried and tested and that is why they are getting more and more sponsors. The respondents felt that the Organisation is enabled and flexible. They can opt and adapt to new methods of procurement. Since 1994 they have been working with the power policy prevailing at the time and the respondents stated they learned a lot from their experiences by doing projects and then when the 2002 power policy came they again learned by doing. As one respondent stated “we are refining our process as

we are aging. This is dynamic process we are always changing at start there was no concept of IPP in Pakistan and all power sector was done by the government in public sector then our organization came up with the IPP concept then the regulatory environment was setup. As we age, we as an organization we see where we can improve and we try to improve on that so I would say our organization is enabled to adapt to changes”.

6.2.3.6 Culture

All the respondents reported that the main purpose of our organization is one window facilitation for IPP’s and all the interaction that IPP’s have with GoP and the power purchaser is through this organization. One of the respondents reported that “overall the culture with IPPs and within the organization is that we had a good congenial atmosphere and we had no attitude problems or bad blood between any of the parties involved. I would say it was culture of cooperation”. The respondents reported that the culture between other public sector stakeholders such as the tariff regulator was quite adversarial as one respondent stated that “the framework for determining tariff is quite adversarial and there is no recourse to the regulator’s decisions”. The respondents reported that the culture of other public sector stakeholders was bureaucratic and they felt that the private parties were treated as if they are public sector parties. The respondents felt that the culture of other public sector stakeholders is a culture of “us against them”. A respondent reported that “this due to the fact that the experts in power sector in Pakistan are from the public sector domain and they have this syndrome that the tariff is always high as they are used to tariff of 50 paisa per unit we need to negotiate”. In the initial years the respondents reported that the environment and the culture was quite hostile. They stated that when substantial numbers of projects were done the culture also became more developed.

6.2.3.7 Lack of Understanding

The respondents reported that in the early years of the organisation, doing projects in power sector with non public private parties had not developed yet in Pakistan and not many people were aware of the concept and how to implement these new procurement routes. Many were unaware of what are

the risks, what is the role of the agency and the company, what kind of agreements should be made etc. The respondents reported that as mostly there was a trust deficit gap as well as lack of understanding hence the environment became hostile as both parties i.e. public as well as private were inexperienced and did not fully understand the process and risks. But as the organizations both public and private matured by doing more projects both the public sector and private sector also developed more understanding and got more mature and professional in their attitude towards participation in power projects in Pakistan.

6.2.3.8 Regulatory & Legal

The respondents reported that there were a number of things related to the laws when the first power policy came in 1994. The respondents felt that there was ambiguity in that which law is impacting and how is impacting for example a tax incentive and tax holiday was given in the 1994 policy but the concerned tax department could not implement it or regularize it as the law was not in concurrence with the policy and was saying something else. In order to amend the law and to translate the law and issuance of Statutory Regulation Order (SRO's) and all these consents and amendments took time. The respondents felt that were some items in the policy for which the law needed to be changed otherwise it could not be implemented. The respondents felt that the regulation of tariff for the most part was reactive and there was no formal definition for the policy and regulatory role of the Government and the regulator. One respondent reported that the reason for this is the Act under which the tariff regulator operates is causing ambiguity in its interpretation and operation.

The respondents also stated that in Pakistan different procurements methods are being followed apart from the ones being followed in their organization. The procurement regulator was PPRA which has made many rules and there are many policies but the main problem reported was its implementation. As one respondent stated "we have procedures but if the implementation is made better if it is ensured that all these rules and policy is followed in letter and spirit the practice of procurement will change in Pakistan and a lot of problems will be solved". The respondents stated that

the PPRA rules and procedures was a lengthy process to follow and involve a number of people and it's a huge chain as one respondents stated "we need minimize the chain plus the processes are outdated and a lot of unnecessary paperwork is involved and there are a lot of chances of manipulating facts and figures so we need to change these".

Plethora of Statutory Consents

The respondents reported that there are quite a few consents from various government institutions and public sector stakeholders which are also needed. One respondent reported that "they are from various government institutions for example if there is a tax holiday for hydropower generation then there consent is needed from the Federal Bureau of Revenue similarly State Bank of Pakistan's consents is required to open foreign currency accounts etc these consents are in hundreds if I must say maybe 400 or more". The respondents reported that as per policy statutory consents are left for the project company to obtain after the project agreement is signed. This has been reported to be the cause of significant delays and often conflicts. The respondents stated that they as an organization and individuals help facilitate the private party in getting these various consents from various government institutions and organizations concerned. As one respondent said "this is my role which in short starts from the award of the project to negotiate the project with the sponsors and to facilitate the sponsors in taking various consents for Federal Government and provincial government departments as required". The respondents felt that in getting these consents a lot of time is required as most of it is from bureaucratic public sector organisations who have very stringent bureaucratic procedures. One of the respondents stated that "we are thinking of making a list as there are lot of linkages that an IPP must have with the local government and provincial government and they have their own requirements normally our organizations role in this is very minimal as it is at a lower level and local. This list will contain the requirements of both local and provincial governments and the contact or focal person to go to so that time is not wasted by private investor in running after these issues and finding the concerned individual for it we aim this would further reduce the processing time in getting consents". The faster and much more efficient

way to avoid this delay would be to get the consents required prior to tendering the project as it is done in many other countries.

6.2.3.9 Conditions of the Country / External Environment

The respondents felt that another important issue that is external to their organization and they have no control over it is the security situation in Pakistan. It was reported that this not only disturbs the financing and impacts adversely on project development as well. Due to it the respondents stated that the risks get increased and which in turn means more risk coverage for the Organisation and it also makes it difficult to get arrangement for financing because of the perception of high risk due to law and order and the prevailing security situation in the country. Another factor affecting projects and financing is the financial crunch of the world this has resulted in reduced financing in power projects in Pakistan.

The respondents also felt that the environmental standards of the Government were becoming strict as a result of it they have to become strict with oil fired power projects and the processing for its waste and effects. The respondents also stated that site issues are another factor for instance “when people know that a project is being constructed at a certain location so they make the cost of land go up which in turn causes the cost of the project to increase”. Although the government has procedures to deal with such issues such as the enforcement of land acquisition act of Pakistan by the district and local government authorities but still the practice is very common and hampers project execution and cost. The respondents also reported that water problems is another issue since power plants use a lot of water and if there is a irrigation canal etc near the project then it makes problems for the project. There are some political issues as well which have been discussed in detail above. Another problem reported by the respondents is the huge gap in energy supply and demand in country which is also affecting the project procurement as well as implementation. The reason being as reported by one of the respondents is that “the power purchaser was suffering from huge demand for power supply and they wanted power and energy over night to fill that gap there was political pressure over the government from the people as the country was going in

8-12 hours of load shedding or load management and most of the cities and industries did not have power for 8-12 hours of the day”. This pressure reduced the need for competition and transparency. Also the respondents felt that coordination between the provinces and federal government was weak and needed to strengthening which would help in addressing a lot of issues.

6.2.4 Impact of Procurement on Successful Project Outcomes

All the respondents stated that procurement had a direct impact on successful outcomes of the project. The respondents unanimously stated that the project procurement process and method directly impacted the successful outcomes of the projects in their organisation. One of the respondent stated that “first of all when we first experimented with IPP’s in Pakistan in 1995 since 1995 we have learned a lot from our experiences and the revised policy of 2002 we changed a lot and we have streamlined most of processes and methods which has definitely helped us in successful implementation of projects. Our process is now so streamlined that not much time is required in processing and procurement most of the time is spent in development, construction, setup and operationalisation of the facility”.

They further elaborated that Pakistan’s power policy is among the more lucrative policies of the developing countries because they pay the tariff in two parts the capacity price and the energy price. The major risk to the investor that the project is there and functional but due to unavailability of fuel be it oil in case of thermal power and water in case of hydro power projects which is the responsibility of the state to procure the capacity price in any case is paid to the sponsor by the power purchaser irrespective if the project generates electricity or not provided that the power plant is functional it can operate and able to run and generate electricity. As this risk is covered that is why a number of projects are coming up in thermal and also in hydro power projects are being developed in Pakistan at Federal and Provincial levels. With years experience the respondents stated that they have refined the policy and procurement procedures through learning from past experiences and this has impacted the successful implementation of

projects. As one respondent stated “that’s why more and more projects are coming up and the level of interest in the local and international market has risen in both hydro and thermal power in Pakistan at both Federal and Provincial levels as well”. The respondents further iterated that the project framework has been tested from the bankability point of view This framework has now been tested the same banks and other similar banks now are more attracted to market of Pakistan after seeing the bankability of the projects. One respondent stated that “now they feel confident that Pakistan has a good framework and now they are comfortable with the Pakistani framework. I think now Pakistan can attract more money and investment from the world easily. Any how the world’s financial crunch is a reality and our law and order situation of Pakistan is a reality as well so these are the hurdles otherwise from framework point of view we have an excellent framework”.

Another respondent stated that “our role and the role of our organisation are to facilitate and if we don’t facilitate then no project would be done and no investment would come. So far we have setup 19 projects with the help of private sector and this is due to the fact that our organization tries its level best to facilitate the project and setup projects. Whatever the issues be it pre-development, post development, during development and during implementation and operation whatever and whenever any issues arise we try to facilitate and find an amicable solution to it. So far due to this system our projects have no problem in its implementation and everything has been going quietly smoothly”. Another respondent stated that “as far as procurement process is concerned that was 100% successful as soon they applied for the project they got the project. But the activities to be performed after the award of the project delayed the project. The process itself was not a factor for delay and was successful.”

6.2.5 Case Study Project C

6.2.5.1 Issues in Procurement Selection/ Choice

6.2.5.1.1 Delays in Attracting Interest

The choice for procurement of this project was that of non-traditional procurement method of private sector investment in power projects

under the build-own-operate-transfer (BOOT) mode and the facility would be transferred to the Government free of cost at the end of a 25-year term. In the case of case study project C when the project was being procured at that point in time there was no good response to power sector projects in Pakistan particularly hydropower projects the reason as reported by respondents was that the private sector participation was in its infancy stages and there was no clear framework available at that time. The respondents also reported that in order to encourage private sector participation in power projects in Pakistan the Government gave tax incentives in the policy and also directed the organization to procure projects on first come first serve basis as discussed in the sections above.

6.2.5.2 Issues in Procurement Implementation

6.2.5.2.1 Principles of Procurement

The respondents reported that the process was based on the first come first serve method and in this method there was no competition. At that point in time the major consideration was the value for money because investing in hydropower projects is a costly business. As stated by one respondent that “to install a mega watt project you require around US \$ 2 Million in any case. So value of money was number 1 there was no competition because it was based on first come first serve basis. Although it was first come first serve basis the evaluation process was wholly transparent we had an evaluation committee of all the stakeholders who evaluated the project in a transparent manner. It was based on collective wisdom but it was not competitive. No stakeholder was party to the project and we never allow anyone who is party to the project to sit in the evaluation committee and no one in the committee is allowed to interact with the bidding party. For instance if some consultant is directly involved in feasibility or some activity of the project we never allow that consult in evaluation of bid or proposal”. The respondents further stated that for getting value for money they look at the credentials of the company, they first check availability of reasonable amount of funds, then they check the technical know how and

knowledge of the business. As one respondent stated “this company was sound technically and financially that is why this project is ultimately under construction”. The respondents also ranked the principles of procurement as first of they rank value for money, 2nd transparency then accountability then ethics and lastly competition.

6.2.5.2.2 Risks and Contract Management

They have standard agreements as discussed above and they used the same agreements with the private organization in which they have defined risks and the party that bares the risks. In case of project C the private organization has taken the risks for financing, designing, construction and operation of the project for 25 year lease term in return the power purchaser has agreed to purchase power at tariff of US ¢ 8.5 per kWh . Plus the public sector was dealing with the private sector parties and investment as dealing with public sector parties. But the private sector is more sensitive to the risks most of the experts as one respondent reported “in power sector in Pakistan the people in the public sector domain they have this syndrome that the tariff is always high as they are used to a tariff of 50 (Pakistani) paisa (cent) per unit and that is why they say 4.7 US cents per unit is very high so they say we need to re-negotiate”. Organisation 2 has used third party consultants along with in-house expertise for vetting the legal and financial aspects of the agreements and financial proposal.

6.2.5.2.3 Legal, Regulatory & Policy Issues

The respondents reported that the case study C project being the first hydro independent power producer (IPP) project in Pakistan that has successfully achieved the financial close, it had to face a number of hurdles. First of all at that point in time there was no framework available for the bankability of the project during this whole course a number of issues emerged for instance under 1995 policy there was an upfront tariff 4.7 cents per kWh (unit) so as to avoid months in negotiating tariff an up front tariff was given. But from the Government side the power purchaser objected to this after two years i.e. in 1997 and the power

purchaser succeeded in withdrawing the upfront tariff as one respondent said “that was the first shock that this project received”. The power purchaser offered to re-negotiate the tariff for the project and during re-negotiations the power purchaser imposed a very low tariff of 3.1 US cents per unit over the company as another respondent said “it was not agreed but rather imposed”. The company accepted to this tariff on a condition if the financial institutions will give them finances based on this tariff then they will take this tariff otherwise will come back to re-negotiate. They approached a number of international lenders a few of them showed interest but not at the tariff suggested by the power purchaser. As a result they went back into negotiations and re-negotiations with the power purchaser till the power purchaser reinstated the original 4.7 US cents per unit in 2004. One respondent stated “but if the 4.7 US cents was in 1995 after 9 years due to escalation was not enough to finance the project. Again the company faced problems in getting finance”. In 2002 the new policy was announced and according to the 2002 policy there were more concessions available and was more lucrative than 1995 policy and at this point in time the regulatory framework had become available. A respondent reported that “after discussing it with all the stakeholders we implemented and we allowed the mechanism available in the 2002 policy for this project. So in this way ultimately it was negotiated at 8.5 cents per unit (kWh) finally after 9 years with this level of tariff the project was also finally financed by the lenders”. The respondents stated that this was the main hurdle along the tenure of the development of this project also there were a number of things related to the laws that is which law is impacting it and how it is impacting for example a tax incentive and tax holiday was given in the 1995 policy but the concerned tax department could not implement it or regularize it as the law was not in concurrence with the policy. In order to amend the law and to translate the law and issuance of Statutory Regulation Order (SRO's) and all that consents and amendments took time. The respondents further stated that there were some items in the policy for which the law needed to be changed otherwise it could not be implemented. Again due to the location of the project as the project is located in a state of

Pakistan and that state has its own parliament and is independent in making its own laws also it is an internationally disputed territory again a back up arrangement had to be made and link had to be made with the Government of Pakistan Policy and the State Government Policy so as to be on equal footing and safeguard the interests of all the stakeholders involved. According to a respondent “these few hurdles took a lot of time in development of this particular project”.

6.2.5.2.4 Accessibility to Finances

As evident from the above discussion accessibility to finances was another major problem. Due to low tariff rate suggested by the power purchaser the project had difficulty in raising and getting the required finances as well as the stringent rules and requirements of international and local financing institutions.

6.2.6 Case Study Project D

6.2.6.1 Issues in Procurement Selection/ Choice

6.2.6.1.1 Delays in Approval

The choice for procurement of this project was that of non-traditional method under the build-own-operate (BOO) mode as per the policy of the Government and Organisation B for procuring thermal power projects for period of 25 year lease term. In the case of case study project D which is oil fired thermal IPP project the respondents reported that over time more thermal generation capacity was installed, leaving the country heavily dependent on imported oil for its primary fuel requirements. Rising oil imports caused the country's current account deficit to increase. They have also caused considerable price escalation and volatility. This and the increasing environmental restrictions have led to decrease in interest in oil fired thermal power projects by the Government. The respondents reported that the sponsors initially submitted the proposal on 27th January 2003 on the grounds that after conversion of many power plants to gas, there would be no usage of indigenous Low Sulfur Fuel Oil (LSFO) being produced by the sponsor. As per decision of the Committee in its meeting held on 7th April 2004,

the sponsors were registered by Organisation B and Pre-Qualification (PQ) document were issued to them. The Sponsors submitted the Statement of Qualification (SOQ) to the Organisation B on 8th June 2004. The Organisation B allowed issuance of LOI in its meeting held on 28th October 2004, based upon the SOQ evaluation report. The sponsors were issued LOI on 21st December 2004, after receipt of bank guarantee from the sponsors. As the project had been an unsolicited raw site project so its feasibility study had not been conducted so the sponsors were asked to conduct feasibility study of project which was approved on 26th November 2005. The sponsors requested the Government on 10th May 2005 for Income Tax Exemption. Considering the low gas availability and anticipated larger power requirements in the future, Organisation B, through the concerned Ministry submitted a summary to the Federal Government on “Exemption of Income Tax on Oil Fired Power Projects under Policy for Power Generation Projects 2002”, on 11th May 2006. The summary was approved the on 22nd May 2006. A respondent stated “policy wise or overall generally if we look at it since it was an oil fired project and the government initially was not in favour of oil fired projects due high tariff rates and other environmental issues as well. But since we had limited options the up side of oil fired projects is that they can be set up much faster and also we had limited supply of natural gas and we had a big demand gap in the power supply to fill so we went for it and had to do it”.

6.2.6.2 Issues in Procurement Implementation

6.2.6.2.1 Principles of Procurement

The respondents reported that in this particular project there was no competition due to the fact that the project was an unsolicited raw site. As per policy of the Organisation B when projects are un-solicited raw sites there is no competition and it is only offered through ICB if the sponsors are un-successful in the feasibility study. The respondents reported that although there was no competition but transparency accountability are ensured by the mechanisms in there organization as discussed in detail above. The emphasis in this case was on value for

money which is judged on the financial position of the sponsors and the technical know how of the company as well as the quality of the feasibility study.

6.2.6.2.2 Risks and Contract Management

In this case study project the Organisation B has used its standard agreements i.e. the implementation agreement, the power purchase agreement and the fuel supply agreement. In which they have defined risks and the party that bares the risks. In case of project D the sponsors has taken the risks for financing, designing, construction and operation. As one respondent said “the sponsor basically determined the tariff on the basis of cost and it was the headache and responsibility of the project sponsor or private investor to develop the project as they deem fit but the tariff has to be approved by the regulator”. The respondents stated that the risks were somewhat balanced the IPP’s responsibility is give sustained supply and the responsibility of the power purchaser was to pay the capacity purchase price irrespectively if the power purchaser buys the electricity or not. A respondent stated that “We monitored these contracts and we also processed the contracts of the power purchaser as well as Government of Pakistan. The fuel supply agreement the IPP had to do it by themselfe but they had to get it approved from our organization and the Government”.

6.2.6.2.3 Delay in Acquisition and Transportation of Equipment

In case of this case study project the respondents reported that since this was oil engine based project and was supposed to be completed within 12-16 months. Due to the vicinity of the project, the project site is situated quite far north from the port where the equipment was to be transported from the port to the site. This project faced a lot of problems in transportation of equipment and hence delays in completion time. The respondents also stated that the procurement and supply of engines and other equipment from the international manufacturer and suppliers was also delayed.

6.3 Organisation 3

6.3.1 Procurement Selection/ Choice

In Organisation 3 the predominant method of procurement is the traditional method. The respondents reported that the choice of procurement depends on the cost of the project and the level of technical complexity of the project, so basically project characteristics of cost and complexity determines the procurement choice. The respondents reported that the organization follows the Pakistan Procurement Regulatory Authority (PPRA), Pakistan Engineering Council (PEC) as well as the provincial government rules, regulations and guidelines regarding procurement. The respondents reported that before the process of procurement can commence they have to prepare the projects PC-1 (Planning Commission Form 1) which is the guiding document giving the broad outline of the project and it shows what has to be done, the objectives, the cost with the break up of costs and time period of the implementation. After preparation of the PC-1 it has to be approved from the relevant forums. The respondents further stated after the approval of the PC-1 then they consider the policy, the engineering standards and specifications as well the contract policy (which is based on the Pakistan Engineering Council specifications) and they do minor amendments to it, after that they place an advertisement according to the Pakistan Public Procurement Authority (PPRA) guidelines. The respondents reported that they follow the classification of contractors based on their registration with the Pakistan Engineering Council (PEC) who classify the contractors and suggest which contractor can get a contract for what value and type of work based on performance of the contractor in past contracts and capacity of the contractor i.e. both technical and financial. After receiving bids the respondents stated that these bids are studied and evaluated, there is a committee which evaluates these bids in the Organisation and a deputy director at headquarter also studies the bid and determines if it is in line with the policy. If they find a bid is too high then the deputy director recommends to the director for concurrence and consideration of the Managing Director that it should be reduced or that bidder should be asked to negotiate the bid. The respondents further stated that in case if the bid is too low and they feel that it is not practical then the Organisation asks the bidder to deposit an additional security of 8%, if it 10% or more lower than of the engineers estimate then the Organisation asks the bidder to deposit a security in order to ensure that he will be able to do the

project. Otherwise if it is too high the Organisation rejects the bids and then re-advertise this, if it is low within the reasonable limits then the use security. After approval of the bids the contracts are awarded and the work order is issued to start off work but after the contractor produces a performance guarantee. Also the respondents stated that based on cost and technical complexities and magnitude of the project they decide on the bidding environment i.e. to go for National Competitive Bidding (NCB) or International Competitive Bidding (ICB).

The respondents also reported that the Organisation has had limited success with other forms of procurement which is discussed in detail in sections below. The respondents also reported that the process of procurement is different when the projects are being funded by lending institutions and they have to follow the rules of the lending institution. They also reported that there are certain rules of the lending institutions which are in conflict with the government regulations but if such is the case then they have to follow the rules of the lending organization as they are funded the project. This is reported to result in numerous problems for the organisation in terms of procurement.

6.3.2 Issues in Procurement Selection/ Choice

6.3.2.1 Need for Finances

The respondents reported that the Organisation is suffering from lack of finances for their projects. The respondent also reported that the Organisation has no predictable infusion of money from the government. One respondent elaborated that “we have a system in which it is defined how much money say you will get in the first and then second year and so on and for instance if they give you the money for the first year then what happens is they give you half of the money allocated to your project for the next year and the reasons given is that there is a financial crunch or the government has changed and because of this instability in cash flow to the project a lot of our projects have suffered and are suffering”. The respondents also reported that priorities of the government change and cannot be predicted. One respondent suggested a way to minimise this by stating that “I think they should give the money for the project upfront and tell you how to spend it and not be held by the government in planning division or finance department. They should say OK that this is your project

money put in the bank and generate interest on it but this is for you entire project you should not come back to us for more money and under no reason we are going to give you more money for this project". They also stated that the Government has asked them to finance their projects by other innovative procurement routes such as Public Private Partnership (PPP) but the organisation has almost no success with PPP.

6.3.3 Issues in Procurement Implementation

6.3.3.1 Risk and Contract Management

The respondents stated that in their Organisation they have a standard contract document, they use the standard contract documentation prepared by the Pakistan Engineering Council (PEC). The respondents also reported that the documents are based 90% on International Federation of Consulting Engineers (FIDIC) with very little variations which are peculiar for Pakistan. One of the respondent stated that "FIDIC approach is of course not as exactly the same as PEC, the PEC has taken up FIDIC but there are changes and then the provincial procurement policy is not like the PEC and FIDIC for example we can't give mobilization advance free of interest, or the calculation of escalation for provincial government and FIDIC are different, each has its own formulae". The respondents also reported that FIDIC is more or less pro contractor while the Organisation and Government rules are more pro client. The respondents also reported that there Organisation does not have a proper risk management framework as one respondent stated "we don't need a risk management framework as the Government is very risk averse and most of the risks are taken up by the contractor". Another respondent reported that "although the PEC contracts do favour the contractor a bit but none the less most of the risks are borne by the contractors and few risks for example like force majeure is taken by us".

6.3.3.2 Principles of Procurement

Regarding principles of procurement the respondents reported that they follow PPRA, PEC as well as Government rules and stated that these rules stress on competition and transparency only. The respondents stated that value for money concept in their organisation and the government for that matter is just least cost alone the lower the cost of the bid the better the

value for money it is considered. The respondents also reported that the process of procurement is designed in such a way that it has accountability but there are many loop holes in the system that can and is misused. The respondents stated that the under the rules the Organisation is allowed to make changes to conditions of procurement and felt that this power is often misused for unethical gains.

6.3.3.3 Political

The respondents stated that political factors are among the worse to affect procurement decisions in their organisation and the impact they have on project implementation is in an impediment to achievement of goals and objectives. The respondents reported that political figures always try influence procurement by asking contracts to be given to their favourite contractors or to contractors from their constituency for personal as well as political gains. As one respondent stated that “the boss just get a call from the minister or higher and then just to save their jobs and of fear of being posted out to a desolate location they fudge the necessary paper work required to safeguard themselves from audit and accountability and just award the projects”. Another respondent stated that “this is not just the case in our organisation alone but in fact the whole country and the public sector is suffering from it. Some just have the courage to admit it others don’t but this is happening everywhere”. The respondents states that in case of land acquisition the politicians are involved in escalating the price of land as they know where a project is going to be done and that area they start buying land beforehand at lower prices and then force the government to buy their lands for higher price. Another respondent stated that “this has become a norm and costs the government as well as the project a lot of money and delays”. The respondents also stated that it’s the not the case in procurement alone the political influence starts from the approvals of projects as one respondent stated that “every politician wants to utilize public funds for development works in there constituency which is not a bad thing but the way they address is quite unethical as they would use any means legal or illegal to get the projects approved”. The respondents also felt that if projects are approved and procured without political interference and instead political will and drive is used in implementation it would be of

more benefit to the project the organisation and the locality of the project as well.

6.3.3.4 Inter and Intra Organisational Issues

Bureaucratic Procedures

The respondents reported that in Organisation 3 there were a lot of bureaucratic procedures to follow. The respondents felt that a lot of time was taken in just getting the projects approved, and then pre-qualification, advertisement, tendering and evaluation took a lot of time. The respondents stated that on the average 12-17 months are spent in procurement which is a huge amount of time. The respondents felt that a lot problems caused in procurement was due to the delays in making decisions and time allotted for processing and making those decisions under the rules of business. The respondents also reported that they are dependent on project approvals and funding from other government organisations which have the similar bureaucratic attitude and has resulted in a lot of time being wasted in approvals in consent as well as the cash flow to the projects is not stable as discussed above in section 6.3.1.1.1. The respondents felt that internal as well as external organisational bureaucratic procedures and delays practice of procurement is severely affected in their Organisation.

De-Centralisation of Decision Powers and Trust

The respondents stated that that the problem with the management is that they have some policies which are not very clear. The respondents elaborated with an example that once they gave a contractor a mobilization advance based on a bank guarantee but that contractor did not perform well and they cancelled the contract. But when they went to cash the bank guarantee that contractor had taken a stay order from the court. This happened 8 years back and they are still in process of resolving that issue through the courts. As one respondent stated that “you can well imagine how much interest on that money or even that money which could have been utilized somewhere else has been lost”. The respondents felt that management and decision power vested in few had resulted in selection of wrong contractor for the job. They felt that if the decision making powers are decentralized this would improve the procurement practice and process. In

the Organisation the officers dealing with procurement are not independent in making their decisions so they have to go through bureaucratic procedures. The respondents felt that the senior management and the Government does not trust the judgment of the officers handling procurement. This made the respondents feel that the Organisation and the Government has a lack of trust regarding the decisions made by them.

Maturity and Development of the Organisation

The respondents felt that there maturity and development of the organisation is necessary for its survival. All the respondents reported that there was a need to do fast track implementation of projects for that they required the necessary skills and training. The respondents also stated that it's imperative to streamline the procurement and management of projects. The respondents also stated that the organisation needs to become more mature and less bureaucratic and politicized. The respondents also stated that the Organisation has yet not matured enough to sustain the external and internal forces. One way is to develop its own champions. The respondents also stated that the delay in maturity of the organization is largely due to political instability which has caused many other problems as well. The respondents also felt a need to have clearer standard operating procedures and a good framework as well as having a very clear policy.

6.3.3.5 Culture

The respondents reported that the culture in their organisation is quite bureaucratic and lacking in trust. As one respondent said that “the problem is that in Pakistan everyone thinks something fishy is always going on and the government of Pakistan thinks that no one is honest”. The respondents felt that this lack of trust by the people and government not only has a demotivational effect on the officers handling procurement but makes them extra cautious which causes delays and they have developed a paranoia of fears and have become over critical and judgmental. Also the respondents stated that there is a culture of non-performance on the contractors' side and of falsifying documentary evidence for getting contracts. The respondents also stated that the typical “thaikaydar” culture as explained in Organisation 1 above in detail is the dominant culture towards dealing with

contractors in Organisation 3. The respondent also reported that political interference as explained above has become a part of the accepted culture of the public sector in Pakistan and is causing severe problems in project execution.

6.3.3.6 Regulatory and Legal

The respondents reported that they have to follow different Government rules and regulations including PPRA and the provincial government regulations which is binding upon them under the law. The respondents also stated that after the directives from the federal government it was decided to abandon their Organisation's guidelines and follow the Pakistan Engineering Council's (PEC) guidelines for procurement of works and services. The respondents also felt that the rules and regulations as well as the legal requirements which they are presently following have lots of lacunae. These lacunae have been the source of varied interpretations of rules and regulations. The respondents also reported that there have been many instances of different interpretations as well as there are a lot of regulations which are in conflict with each other. The respondents felt that due plethora of legal formalities and requirement a lot of loop holes in the system have been noted and these loop holes have regularly being exploited by both the client and contractor sides as well. These problems have led to back door entry of contractors for award of works and services. For instance the respondents stated that on a lower level scale contractor have been coming through back door for award of contracts to them as on respondent stated that "this is happening in our organization, obviously the contractor coming through back door doesn't deserve to be awarded the contract as otherwise why would the contractor come through the back door". Another respondent stated that "there is likely hood in our organisation that such things are happening as there are only three to four people who have the decision powers on procurement and its between these three or four people who are the employees of the government and direct beneficiaries of the job and these people can be manipulated in a sense for example if the boss tells them to award this contractor to say a X contractor or they put in such conditions that only one contractor can fulfil". The respondents also felt that exploiting the loop holes and gaps in the system has become common

practise these days and it is creating problems in project execution and implementation. The respondents also reported that these practises are not only motivated for personal gains but felt that political backing is also a source to it. One respondent elaborated it by stated that “as a result of political backing these personnel involved have become untouchables”.

The respondents also stated that although all the rules and regulations are for the purpose to bring transparency and accountability to the practise of procurement but that was actually not the case. As one respondent stated that “they have tried everything in transparency at least but it has never worked like the new directives are if the project is worth more than Rs 50 million a representative from the National watchdog agency for accountability must be present but usually they don’t come and even if they come the guys have anyway underhand done the deals”. Another respondent stated that “PPRA just covers a certain level and doesn’t come to each level of procurement and even PPRA is not working”.

Another issue related to regulatory and legal aspect of procurement reported by the respondents was that the litigation process was very slow and time consuming in Pakistan. As one respondent stated that “for instance if you feel that something is not going as per contract and you end up in court that work is stopped there you cant do any more work and the project the stopped and held up”. A second respondent said that “we have quite a few cases running in courts I hope someday they say that such matters are out of the jurisdiction of courts or there a special court for it which can speedily resolve these issues”. A third respondent stated that “civil procedure is very long”.

6.3.3.7 Conditions of the Country/ External Environment

The respondents stated that the conditions of the country especially economic, political, policy, stability and security were important factors having profound affect on procurement and effective implementation of projects. The respondent stated that these factors have been the critical factors in the failure in implementation on non-traditional procurement by the organisation. The respondents reported that at economic level no one was

willing nor was investing in Pakistan's infrastructure as rate of return is very low while inflation was going up and not the rate of return. As one respondent elaborated that "lets say at the moment we have an inflation of 14 % today and you want to invest in PPP so it should be that the rate of return is higher than the inflation rate which is not the case plus you are supposed to earn a profit otherwise no point in investing". Another respondent stated that "another dimension here is that you are investing today while you are supposed to earn profit after the completion of the project". The foreign exchange rate is also going high day by day as one respondent stated that "unless the government fixes the exchange rate of dollar for such projects no one would be willing to invest". The respondents also stated that there are a lot of political risks in Pakistan as the change of governments is quite frequent which has resulted in change of policies. There is very limited predictability for continuance of policy in Pakistan. The precarious security situation of the region and the country has resulted in increase of security risks which is another discouraging factor for investors in infrastructure in Pakistan. The respondents elaborated their experience of other forms of procurement implemented by the Organisation. For instance the respondents that the Government has on and off asked them to study and test the applicability of other kinds of procurement especially PPP with more emphasis on BOT. one respondent stated that "maybe BOT is more practical in buildings and facilities as rental value and return is higher but in case of roads if we put on a high toll then users complain aggressively". The respondents stated that toll capacity of people in Pakistan is very low and for PPP project to be done on BOT in road sector requires heavy tolls to get the return on investment. One respondent elaborated this by stating that "we tried this on one of our projects in X road people on the second day people took all the toll booths and destroyed them and finally we resorted to the old toll per trip on the road which is not enough to earn back the return on investment". A second respondent stated that "we also tried this in Y road and in 10 days time all the toll booths were smashed up and there were huge processions and led by the politicians and we had to stop". The respondents stated that the paying capacity of the people is not much that's why in Pakistan the tolls are very low as compared to other countries and there are a lot of pilferages in toll collection as well.

The respondents also felt that the environment was not yet enabled to do other forms of procurement.

6.3.4 Impact of Procurement on Successful Project Outcomes

The respondents unanimously stated that procurement had a direct impact on successful project outcomes. The respondents further elaborated this by stating that all these criteria, guidelines and rules are designed to achieve successful project outcome. The respondents felt if the process of procurement is followed in letter and spirit they would not have any problems in effective implementation. One respondent reported that “we have good pre-qualification criteria and standards and if we stick to this criterion and standard and the PEC system is transparent and clean and based on actual performance of the contractor in the past contracts and capacity of the contractor then you would not end up in any problems as the contractor would be financially sound and will have enough experience have enough personnel and if that grading is correctly done then you wont have any problem that’s the advantage of this system if you follow something which is pre-determined”. Another respondent stated that “but if you lets say start recruiting contractors and consultants for that matter and if it is based on personal likes and dislikes then its all problems”.

6.3.5 Case Study Project E

6.3.5.1 Issues in Procurement Selection

6.3.5.1.1 Delays in Biddings and Response

The respondents reported that based on the requirements they were huge contracts and the Organisation were under the impression that since the lender is internationally renowned lender comprising of consortium of developed countries and the contract was quite substantial they would get more countries and bigger international organisations to participate in it so it was decided to be advertised as International Competitive Bidding (ICB) as one project. The respondents reported that once it was advertised they did not get a good response. As one respondent stated that “no one was willing mostly because of security concerns, no one was willing to come for the bid”. The respondents also stated that after seeing such a poor response and looking at the cost of the project it was decided with the consent of the

lending institution to sub-divide the projects so that Pakistani companies could afford to bid on it. As one respondent stated that “the bid security for the whole one project was so high that no Pakistani company could afford the bid security even”. The project was then again advertised through National Competitive Bidding (NCB). One respondent said that “this whole process took 17 months just to get the bids approved”.

6.3.5.2 Issues in Procurement Implementation

6.3.5.2.1 Principles of Procurement

In this case study project the respondents reported that since the money was loaned from an international lending institute they had to follow the procurement policy guidelines of that institution. The respondent reported that the procedure for procurement of the lending institution was quite transparent but bureaucratic. As one respondent reported that “it is very transparent, in the sense that how you start a proposal, even the advertisement, it goes to the lenders and once it comes from there (the approval of the advertisement) then we place it in the newspaper and on their website, so it is very closely monitored by the institution, starting from the advertisement right up to the award of contract, they are involved in this”. The respondent also felt that unlike the Government which is more interested in cost and price and quite cumbersome the institution’s guidelines were much simpler to follow. The respondents also felt that the Government procurement policy clashes with the institutions guidelines. As one respondent stated that “our procurement policy clashes with those of lenders, like the lenders says if a single bidder comes you can award the contract to them but the Government says there should be a minimum of three bidders, so that in this way there is a healthy competition, however there is an agreement from the lenders to the loan taker that where there is a conflict between their rules and the government rules, Government rules will prevail”. Another respondent stated that “like in the civil works other than one sub-project where there were two bidders each one of the other sub-projects were given to a single bidder, this is actually in direct conflict with our policy, because this was money loaned by them we couldn’t help it, otherwise it should be value for money for us which should be

more important". The respondents felt that value for money in term of the understanding in public sector in Pakistan means least cost only.

6.3.5.2.2 Risks and Contract Management

The respondents reported that in the Organisation they have standard contract documents in which risks and roles are defined and the party who bears these risks. But in the case of the case study project the respondents stated that a standard contract document was prepared by consultants hired for it and it was approved by the lending institution. The respondent stated that it was much similar to the standard contract documentation in their Organisation with very little variations to make it more contractors friendly.

6.3.5.2.3 Conditions of the Country

The respondents reported that the conditions of the country especially the security situation of the project location as well as the country was hampering in the procurement process as well as implementation of the project. Due to the security situation there was delay in response as discussed above for the bids but the respondents also stated that during implementation work had to be regularly stooped due to law and order situation on project site and locations. A lot of time delay resulted of it and caused the cost of construction to increase as well. The respondents stated that due to security situation the effect on the project was so enormous that the project had to be curtailed from the original 300 kilometers plus road to just 74 kilometres.

6.4 Organisation 4

6.4.1 Procurement Selection/ Choice

In this Organisation there is only one method of procurement that can be described as traditional method. As one respondent stated that "it's not a matter of choice for us to select the procurement method, its binding on us under the rules that we have to follow a specific method of procurement". The Organisation follows the Public Procurement Regulatory Authority (PPRA) rules and procedures and they also follow the Pakistan Engineering Council's (PEC) prescribed bidding documentations and guidelines forbid evaluations in case of

projects funded by the Government. In case of the projects funded by international lending institutions the Organisation follows the rules and procedures prescribed by these lending organisations.

The respondents reported that the process of procurement involves first pre-qualification of firms they have their criteria according to the rules and regulations of the government. Once a firm is pre-qualified then they invite technical and financial proposals or bids and evaluate these according to the criteria set by the government. For proposal and bid evaluation the organisations constitutes a procurement committee, the criteria for membership to the committee depends upon the cost of the procurement for instance if the procurement is of higher cost than the high ranking officers of the Organisation constitutes the membership of the committee and so on and so forth. A respondent stated that “there are three or four tiers of membership based on cost and even approval of projects and the level of the approving forum is based on cost”. The respondents further stated that in case of the consultant and contractor selection they consider it on a case to case and project to project basis for instance if the project is technically complex then they give more emphasis to the technical aspects of the bid or proposal the ratio range under rules is either 50-50 and 80-20 i.e. 50% or 80% to technical and 50% to 20% to financial aspects of the proposal and vice versa. One of the respondents reported that “for instance in case of a technically complex project they check the bid and proposal by checking for technical competency and experience in works of similar nature once the firm is technically qualified then we go check the financial proposal otherwise we return the sealed financial proposal”. Also the respondents stated that based on cost and technical complexities and magnitude of the project they decide on the bidding environment i.e. to go for National Competitive Bidding (NCB) or International Competitive Bidding (ICB).

6.4.2 Issues in Procurement Selection/ Choice

6.4.2.1 Need for Relaxation of Rules

The respondents reported that since their organisation operates in the Federally Administered Tribal Areas (FATA) as it is known in Pakistan. This location has its own special circumstances and requirements as the ordinary law of Pakistan is not applicable to these areas and the area is much under

developed and there is a huge capacity constraint and law and order situation is fragile in this area so the respondents felt that there is a need to relax some of the stringent requirements of PPRA, PEC and Government rules, regulations and procedures. As one respondent state “relaxation of rules would make it easier”. The respondents also reported that due to the fact that FATA has become a high risk due to security and law and order situation only those contractors come for bidding that are local to the area while other leading contractors of the country showed no interest in projects in FATA. As a result of this the respondents felt that since the local contractors skills and expertise are quite limited and evaluating them on the strict criteria makes most of them not qualified. As one respondent reported “we need to make the rules flexible so as to accommodate the peculiar situation of FATA”. Another respondent stated that “the laws need to be relaxed, requirements needs to be reduced and hurdles should not be created but rather removed”.

6.4.3 Issues in Procurement Implementation

6.4.3.1 Risk and Contract Management

Regarding risks and contract management the respondents reported that the organisation has a legal adviser who advises on legal aspects of contracts but mostly the technical and finance sections of the organisation handles contract management. The respondents also reported that they have three tier process i.e. the Organisation hire consultants and contractors, field and project staff and the officers at the Organisation manage, oversee and monitor the whole process and contract management. The respondents reported that for every project the organizations sets up a project support unit (PSU) under the chairmanship of general manager technical. This PSU oversees the management and implementation of the project. The Organisation follows the standard contract prescribed by the Pakistan Engineering Council (PEC) and the Government and risks are assigned according to these prescribed documentation and guidelines. The respondents reported that most of the risks are transferred to the consultants and contractors, and a few risks are taken on by the Organisation for instance force majeure. One respondent stated that “we ask contractors and consultants to cater and count for all

risks in their bids. We also take guarantees and bonds for them as well to cover our risks". One of the respondents stated that "at present moment the major risk is the security and law and order risk in the geographic location (FATA) we operate in and as a result of which only those contractors comes for bidding that are local to the area only and no other contractor is willing to participate". Another respondent stated that "the risks as per documentation and guidelines provided by the Government and the PEC are defined and accordingly we also take guarantees from them (consultants & contractors) and the competitors who come for bidding assess their risks then comes for bidding otherwise it wont be wise to bid without assessing your risks and contingencies".

6.4.3.2 Principles of Procurement

In case of Organisation 4 the respondents stated that the major considerations for the Organisation are price and competition. The further elaborated by stating that in case of contractor selection they pre-qualify firms and once the firms have been pre-qualified on equal footing then the competition is based on the lowest price. But in case of consultants they go for technical capabilities as well as financial capabilities of the firm or consultant as explained above. The respondents stated that the party is selected on the basis of scores obtained and the ranking system in the Organisation. As one respondent stated "the higher is the scorer the first offer is made to that party and it's not just cost, the ideal condition is that the cost is also less and the party is the highest scorer". The respondents felt strongly that the process of procurement is quite transparent in their Organisation and they are accountable under the law. As one respondent stated that "we have a mechanism of post audit and all these decisions regarding procurement are also evaluated by the audit team of the Government". The respondent also reported that since the promulgation of the PPRA the process of procurement has become a bit more cumbersome but it has increased transparency and accountability of public procurement. The respondents stated that in the past there had been numerous instances of unethical behavior and lack of transparency and accountability in the public sector procurement domain such as incidents of advertisements in dummy newspapers etc. The respondents also felt that the unethical

behaviour and practices had been on both sides i.e. the public and the contractor or consultants as well. The respondents also recalled numerous incidents of contractors or consultants submitting false claims of work and experience as well as false documentations etc. The respondents felt that after raising of an organisation such as PPRA this has decreased such incidences and such incidences have been the reason of lack of general public's and the governments trust in procurement or works and services. The respondents felt that following the rules and regulations is cumbersome but it ensured transparency and accountability and also increased the trust of the bidders as one respondent reported that "this ensures confidence to the bidders that if these rules are followed than there is minimum chance of corruption or foul play".

6.4.3.3 Political

The respondents reported that the geographic nature of the area they operate it and because of the governance structure i.e. Governor Rule and tribal customs and traditions they stated that they did not face any political pressures during procurement. The respondents stated that there was no political interference in the implementation mechanisms of the organisation. As one respondents stated that the Organisation "is accountable to one political boss that is the Governor and we think its a plus point as unlike other public sector organisations we don't have to deal with members of parliaments and politicians". But the respondents felt that if organisational and political will as well as the will of the project stakeholders is there then projects do get completed on time and within budget.

6.4.3.4 Inter and Intra Organisational Issues

Bureaucratic Procedures

The respondents felt that their Organisation had a lot of bureaucratic procedures, as one respondent reported that "a lot of time is taken in just getting the projects approved, then pre-qualification of firms takes time then tendering and evaluation takes a lot of time and it is all because we have to follow bureaucratic rules and procedures and have to do a lot of paperwork and wait for decisions to come". The respondents felt that a lot problems caused in procurement was due to the delays in making decisions. A

respondent stated that in one of their projects “the decision was made to re-advertise the project as the management felt that only one bidder has come and the cost is high when we re-advertised the project the cost of the bids went up with the same bidder quoting a higher price this time”. The respondents also stated that in the project approval documents or template i.e. known as PC-1 (Planning Commission 1) there is cost for each item of work such as for design and supervision etc. if the bids that comes is higher than the cost allocated for the works in that case the respondent stated that under the rules either the PC-1 document has to be revised and approved by the relevant forum or they have to go to the next higher and competent authority to get approval. The respondents felt that due to internal within the Organisation as well as external i.e. intra organizational bureaucratic procedures and delays in decision making the practice of procurement is severely affected in their Organisation.

Need for Decentralisation of Decision Powers & Trust

The respondents felt that bureaucratic procedures and delays in decision making can be reduced if the decision making powers are decentralized and felt that there is more need for more autonomy for improving procurement practice and process. As one respondent stated that “the more decision powers come down to the doorstep the better, power should not be centralised but should be trickled down the chain” In the Organisation the officers dealing with procurement are not independent in making their decisions so they have to go through bureaucratic procedures, red tapes and as a result face massive delays to get decisions and approvals. The respondents felt that the powers to make decisions are not trickled down due to the fact that the senior management and the Government does not trust the judgment of the officers handling procurement as one respondent stated “they should believe us otherwise why we are sitting here then?” . The respondent also felt that due to the mechanism of post audit followed by the government and their organisation as a result of decisions can come under audit observation after many years and the officer making the decision is held accountable. The respondents stated that this is why no one was willing to take risks and make timely decision also as a fear of post audit the officer making the decisions wants to observe that every aspect of

the rules is covered which causes un-necessary delays. This made the respondents feel that the Organisation and the Government has a lack of trust regarding the decisions made by them. The respondents also felt that post audit should be abandoned and pre-audit should be undertaken. As one respondent stated that “it should be a vigorous pre-audit as after many years being held accountable for decisions made years ago and proving yourself clear from dirty accusations with old documents and records after a long time is very hard”. Another respondent stated that “even if you do a good job the audit guys always have the psyche that there is something fishy they don’t trust anyone. And due to this everyone tries to avoid making decisions and see that every aspect of audit and rules is covered and no one tries to take a risk”.

Maturity and Development of the Organisation

The respondents felt that there was a need for maturity and development of the organisation. The reason reported was that since it had been a few years that the organisation was restructured from a Government department to a development authority and the processes that were being followed were old and quite bureaucratic. The respondents also reported that although the structure of the organisation was made quite flat the processes followed did not suit the structure. The respondents also felt that there was a need for increasing the capacity constraints of the Organisation by imparting more training to the staff as the staff lacked the capacity in evaluating bids and proposals also the Organisation was implementing technologically advanced projects such as solar, wind and other renewable energy projects which they have not previously divulged in. All the respondents reported that there was a need to do fast track implementation of projects for that they required the necessary skills and training plus they respondents felt that if a separate unit is raised for project implementation that would streamline the project execution and management. At the moment a project support unit (PSU) for projects was made under the chairmanship of General Manager Technical but they felt that it was increasing the work load of the officers as they had other responsibilities in the organisation as well and if they had a separate exclusive project management unit with officers dedicated to project work only that would increase the efficiency of project execution in

the Organisation. In reply to a question about the how enabled and able the organisation is to respond to new changes in procurement all the respondents felt that the organisation is enabled to execute other forms of procurement if the government gives a proper framework for the execution and impart skill training. As one respondent stated “if the government decide and asks us to do it we follow rules and policy of the government so than we can do it”.

6.4.3.5 Culture

The respondents reported that they keep cordial relationship with all the stakeholders of the projects and the Organisation’s aim is to facilitate. The respondents also reported that their mandate is thorough scrutiny of documentations and process as discussed above in detail which is why the culture can be deemed to be bureaucratic. The respondents also reported that the general relationship in Pakistan and in public sector between clients and contractors or consultants and between contractors as well as consultants is adversarial and the competition is on price. Also the respondents reported that the general culture within public sector and about public sector is lack of trust which is why the respondents felt that the audit objections are quite often. Also the general public’s perception is of mistrust for instance a respondent stated that “in our contracts clauses we allow escalation of price but normally people think it’s not work done and its free money given to contractors and something is fishy. There is no trust external or even internal to the organisation regarding officers handling procurement”. The respondents also stated that the predominant culture in public procurement is that of what has earlier been described in detail in case study Organisation 1 as the typical “Thaikaydar” culture. The respondents also felt that it’s the general culture in Pakistan of not following rules. One respondent stated that “our culture is that rules are made to be broken and people feel proud when they break rules as if they have conquered something”. All the respondents stated that if the rules are followed in letter and spirit there would be no problems in project implementation.

6.4.3.6 Regulatory & Legal

The respondents reported that there were a number of issues related to the laws, rules and the interpretation of these rules that were quite contradictory to each other as result of which the respondents felts that no one was willing to take the risk to make decisions. The respondents reported that there are a number of rules and regulations stated by the PPRA, PEC and the Government (such as general financial rules and treasury rules etc.) that are contradictory and to each other and can be interpreted in many ways. The respondents reported that even inter departmental rules are contradictory to each other as the for instance the procurement rules of the Government and the rules of finance department have instances of contradiction to each other. One of the respondents elaborated by giving an example of the income tax exemption clause which has caused problems of litigation with contractors, as per rules the contractor hailing from the region of FATA and doing project in FATA is exempted from the income tax but the organisation's account section has interpreted a rule differently and has deducted income tax. This example is further elaborated in detail in the case study project F analysis below. As one respondent stated "there are certain clauses that allows us to do certain things but at the same time the finance department rules are contradictory to those clauses this makes a lot of problem for us". One respondent stated that "there should not be contradiction in cases of laws and rules". The respondents felt the ambiguity in rules and regulations is quite an impediment in procurement implementation and successful delivery of projects in their organisation and felt that a much clearer framework was required. The respondents also felt that there was a need for flexibility of rules so as it avoid issues in project implementation and execution. Another problem reported by the respondents was that the general trend in project procurement and implementation is either following the rules too strictly or not abiding by the rules. This dilemma has been reported to be on both sides of the procurement which causes problems in project execution as well as procurement. The respondents also felt the rules did not support fast track implementation which was the need of the organisation. The respondents also reported that according to rules there is a binding upon them if the bid price goes above 10% of the approved cost or their estimates than they cant

accept the bids and either they have to get revised approval for higher cost from the relevant forums or negotiate the bids. It was interesting to note that rules and regulations at one time were reported by the respondents to be an impediment and at the same time needed for effective implementation.

6.4.3.7 Conditions of the Country / External Environment

The respondents stated that the most important issue that was external to their organization and they have no control over it is the security situation in Pakistan in general and the security situation in FATA in particular. It merits attention here to state that the FATA is the place in Pakistan where there have been on going military operations since 2002 to curb militancy as well as this is the place of constant drone attacks by the NATO and US troops. The respondents felt that there is only down side to the security situation as a result of which risks have become high and interest of leading contractors and consultants both domestic and international for projects in FATA has drastically decreased. The respondents reported that the high risk and uncertainty has increased the cost of construction in FATA. One of the respondents stated that “at present moment the major risk is the security and law and order risk in the geographic location (FATA) we operate in and as a result of which only those contractors comes for bidding that are local to the area only and no other contractor is willing to participate”. As a result of this the respondents felt that since the local contractors skills and expertise are quite limited and evaluating them on the strict criteria makes most of them not qualified. It was reported that this not only disturbed the financing and impacted adversely on project development as well. Due to it the respondents stated that the risks had increased and which in turn meant more risk coverage for the Organisation as well as dwindling interests in their projects.

6.4.4 Impact of Procurement on Successful Project Outcomes

The respondents felt that procurement has direct relationship to successful project outcomes. The further stated that the procurement rules and guidelines if followed in letter and spirit are designed to achieve success. The respondents reported that the criteria for pre-qualification and award of contracts are tailored in such a way that they check the financial strength of

the firm, its technical capacity, technical capability, experience, the qualifications and experience of its staff and availability of machinery. All these are built in the process for one reason i.e. to achieve successful project outcomes. The respondents felt that in addition to this the due diligence of the process of procurement also helps them in identifying who is best suited to handle the project. As one respondent stated “all these are designed for the fact that we want a successful project outcome”. One of the respondents stated that as per rules the bidder is required to submit certificates of successful completion of the projects that they have done from the clients but that is not the case the respondents reported that they have rarely seen any bidder providing such certificates. The respondents felt that not just only procurement impacts successful project outcomes but the project planning and the project document i.e. PC-1 if it is properly prepared they stated that its in their experience that such projects usually reaches successful conclusions. The respondents also felt that for success implementation will be it political organizational or personal and loyalty to the project is imperative i.e. how loyal and willing is the organisation as well as the contractors and consultants to the project. The respondents felt that there is much room for improvement in the process and rules for procurement which will lead to successful implementation of projects.

6.4.5 Case Study Project F

6.4.5.1 Issues in Procurement Selection/ Choice

6.4.5.1.1 Delays in Getting Approvals

The choice for procurement of this project was that of traditional procurement method. In the case of case study project F when the project was being procured at that point in time the respondents reported that one of main problem which delayed the project for year was selection of consultant. As one respondent reported that “the contractor was on board but decision to select a consultant took one year”. The reason for this as reported by the respondents was that of bureaucratic procedures and lack of knowledge of decision powers as one respondent reported “first we sent it for approval of the Governor then from their it was sent to FATA secretariat and finally

we found out that our board had the power to decide whether to select the consultant on single source or competition. Now we know that our board has the powers so hopefully this kind of delay will not occur in the future”. The respondents also reported that it takes time to get the project approved from the relevant forums; it also takes time to get the firms pre-qualified then calling bids, opening bids and finally awarding contracts. As one respondent reported “all these causes delays in project implementation eventually”.

6.4.5.2 Issues in Procurement Implementation

6.4.5.2.1 Principles of Procurement

The respondents reported that the process was based competitive bidding and following the Government rules and regulations as well as the PPRA and PEC guidelines ensured that the transparency and accountability of the process. They invited the pre-qualified firms for submitting the bids and the highest scorer with the least cost was selected for the project. The respondents also reported it's not the case always that the highest scorer has the least price submitted. The organization main focus is on price but depends on the technical complexity of the project as well. In case of case project F since it was construction of small dam and it is a technically complex hydraulic structure so they used the criteria of 80-20 i.e 80% of the marks or score were for technical aspects and 20% to financial aspect. As one respondent stated “competition and lowest price is the key criteria for selection during procurement in our organisation. Its on National Competitive Bidding (NCB) as small dams we do on NCB and when its medium and large dams we go for International Competitive bidding (ICB)”. The respondents also reported that only those contractors' submitted bids that hail from FATA while it was NCB no other national contractors' submitted interest in project due to FATA being high security risk zone.

6.4.5.2.2 Risks and Contract Management

They have standard agreements as discussed above and they used the same agreements with the contractors and consultants in which they have defined risks and the party that bears the risks. The respondents reported that in these standard contracts prescribed by the PEC the obligations and responsibilities of the client, contractor and consultant are very clearly defined. The respondents also reported that they are allowed to do minor amendments to the standard contracts according to the powers vested in them by the Government. For the management of the project as stated earlier above the organization set up a PSU under the chairmanship of General Manager (technical) to manage the day to day affairs of the project. In case of case project F which although is located in a very volatile agency of the FATA the respondents reported that the contractor was able to complete the project on time and within budget. As one respondent reported that “we should appreciate the contractor that he managed such a project in very risky agency of FATA”.

6.4.5.2.3 Legal & Regulatory Issues

The respondent reported that there was an issue regarding interpretation of legal and regulatory rules i.e. the clause of income tax according to the agreement with the contractor that the contractor had to pay income tax and income tax was to be deducted at the source of payment. But according to the income tax law if the contractor hails from FATA and the project is in FATA and the funds for the project are for FATA he or she is exempted from income tax and in the case of the case study project F the respondents stated that the Organisation's are in litigation with the contractor as the account and finance section of the organisation interpreted the clause in a different way and stated that the contractor is not exempt from income tax. The base of this interpretation was that the permanent address of residence in the National Identity Document of Pakistan was that of a settle district of

Khyber Pakhtunkhwa and not FATA. The contractor claims to have a domicile of FATA and the address should not be interpreted as the place the contractor belongs. Hence the finance department stated that the organisation should enforce the rule and deduct 6% income from the contractor. The contractor claimed that since he was aware of the tax incentive applicable to him he quoted a rate 6% less. Now the matter is subject to the courts and it's in litigation where the courts would decide. The PEC rules stipulate that if there is government law and as a result of that law there is an increase or decrease in the cost than that law shall prevail and is applicable. One of the respondent stated "our account section interpreted this law in the way that the contractor in view of the law should decrease his rate by 6% but the contractor did not agree to it. The contractor view point is that since he was aware of the exemption he already quoted rates 6% less when he was bidding". The respondents reported that the money has not been deducted and the organisation still has it and will be paid according to the decision of the courts i.e. either to income tax department or to the contractor. The respondents stated that the inflexibility of rules and not having a clear framework for interpretation of rules has resulted in litigation. The respondents also reported that although the organisation and contractor are in litigation but the project has been completed on time and within budget.

6.5 Organisation 5

6.5.1 Procurement Selection/ Choice

In this Organisation there is only one method of procurement at the moment that can be described as traditional method. The respondents reported that they follow the traditional method of tendering and competitive bidding. One respondent stated that "this is our legal obligation we are bound legally to follow this method" another respondent stated "we cannot procure anything without tendering and following PPRA and Federal Government rules". The respondents also stated that there is a time period for the whole process submission of bids then the evaluation etc. and the minimum possible time to process is not less than 3 months while usually it takes a year and sometimes

even more than a year. Since the Organisation follows the traditional method of procurement and the method has been discussed in detail in chapter 4 in detail as well as the same has been described in Organisation case study 3 and 4 so it merits not discussing in detail here as it would be a repeat of the same. The majority of the consultancy services provided to the Organisation at domestic level is by a subsidiary of the Organisation which is sponsored by the Government of Pakistan. It provides consultancy and advisory services for the planning, design and management of projects in all disciplines of railways in Pakistan and has also done projects in other countries.

6.5.2 Issues in Procurement Selection/ Choice

6.5.2.1 Need for Finances

The respondents reported that although the pre-dominant method of procurement in their Organisation was traditional but since past there has been paucity of financing and the Organisation and the Government has been looking at other alternatives. As one respondent reported “in our Organisation we have done projects through supplier credit and we are also looking at the option of Public Private Partnership (PPP)” the case study project H is an example of this as well. The respondents also reported that the country is going through fiscal constraints and natural disasters which has pushed the national exchequer to the brink of collapse as a result of this the organization is suffering severely of financial constraints and had to abandon a lot of projects and cut down on expenses so as to keep the Organisation just operational. The respondent also reported that since there organisation is quite huge and the revenue generation and productivity is far less than the expenses as result of which it has become a burden on the Government. Since long the Federal Government had plans to privatize the Organisation and sell off it assets but had limited success with it which has been reported to be a result of mostly political factors. The respondents also reported that the reason for low revenue generation was the fact that most passenger and freight traffic in the country does not go through railways and road transport is the major carrier of freight and passengers. The respondents also reported that the Government has ignored this sector of transport for decades and limited attention is given to Railways sector including developmental works and increase in capacity and service quality

of the organisation. Also the respondents reported that in railways technology and infrastructure is quite costly in the international market and while the productivity of the sector is low in the country that's why the government refrains from investing in this sector. Regarding a question about foreign aid and loan the respondents reported that aid is extremely rare and none of the respondents ever remembered foreign aid given to the Organisation. But loans are common and the Organisation followed the procurement rules of the lending agency as one respondent stated "we have to take the money from them and return the money with interest that's why we follow what they say". Another respondent stated that "they (foreign lenders) impose their own conditions such as they compel us to buy from member countries or the country giving loan it depends upon the conditions of the loan". The respondents also reported that their Organisation like most Government organisations in public sector in Pakistan can't do agreements directly with the foreign lenders or countries lending the loan nor can negotiate it and there is another organisation which is responsible for this and is the authorized organisation on part of the Government of Pakistan. The respondents also reported that the release of money from the Federal Government is slow and delayed due to bureaucratic and political reasons and also due to lack of funds with the Government and frequent budget cuts. This has caused a lot of their projects to end up in litigation as a result of non-timely payment or non-payment by the client side.

6.5.3 Issues in Procurement Implementation

6.5.3.1 Risk and Contract Management

The risk and contract management as reported by the respondents involves using standard contract agreements in which roles, responsibilities, liabilities and duties of each stakeholder of the project is clearly outlined. As one respondent stated that "we have standard contracts and we follow PPRA rules". But in these rules i.e. PPRA rules the risk management framework is not clearly provided. The majority of the risks are borne by the contractors and consultants and only a few risks are taken on by the Organisation and the Government such as natural disaster etc. The organisation also takes securities, bonds and guarantees from the contractors and consultants.

6.5.3.2 Principles of Procurement

The respondent reported that they follow the PPRA rules in which the emphasis is on transparency and competition. The respondents felt that the rules and procedures are time consuming, very bureaucratic and cumbersome. As one respondent stated that “if all rules in letter and spirit are followed than it would be a transparent process but the problem is that a lot of time is wasted in it”. Competition is mandatory for procurement as a respondent stated “we can’t procure without advertising and competitive bidding it is binding upon us under the law”. The respondents stated that procurement in their organization is based on price. As one of the respondents stated “we select the lowest evaluated bid that is the bidder who has submitted the lowest evaluated cost for the project as it is stipulated under the rules we just follow the rules to avoid complication for us”. Another respondent stated that “although the PPRA rules mandate that value for money should be taken in to consideration but if we select a bidder who is not the lowest that makes problems for us and it becomes very hard to justify it”. The Organisation has its own evaluation criteria and procedures according to PPRA rules as well as other Government rules. The Organisation has a tender committee they evaluate and examine each and every aspect of both the bids and the bidders and it’s composed of high level and experienced officers.

6.5.3.3 Political

The respondents felt that political factors are very important and has a negative impact on procurement. As one respondent gave an example “if for instance all the stakeholders related to a project and our organization are in concurrence with each other and they want to go ahead with something we get a phone call and they (politicians) ask us not to do that thing but instead do another thing and everything is nullified all are hard work is gone”. Another respondent stated that “political interference is 100% hampering our work and is a big hurdle in procurement as well as execution of projects”. The respondents also reported that the Organisation has been used for decades to achieve political objectives of the politicians by being used as a source of employment for political party workers etc.

6.5.3.4 Inter and Intra Organisational Issues

Bureaucratic Procedures

The respondents felt that bureaucratic procedures which they had to follow for procurement were delaying project procurement. One respondent stated that although the process and procedures ensured transparent procurement but at the expense of time. The whole process was reported to be cumbersome and full of un-necessary paperwork and the respondents had to wait for decisions which didn't come on time. A respondent stated that "Its (procurement) complicated for instance in case of locomotives it has more than 10,000 spare parts and seeing checking and evaluating all of these in proposals is a time consuming task". The respondents also felt that not only the system and procedure is time consuming but also the organisation suffers from a chronic problem of slackness. One respondent stated "we need effective management and especially time management". Another respondent stated that "everyone knows that time is money but our organisation seems to have a lot of time as no one worries about time". Another respondent reported "if everyone becomes efficient and there is no slackness than things will be better". The respondents felt that slackness was not their organisation's problem alone but in fact they stated that slackness has both inter and intra organisational impact and implications. One respondent stated that "we are dependent on Planning Commission for project approvals and it takes a lot of time we are also dependent on Ministry of Finance for release of money it is usually delayed". Another respondent stated "we have to follow PPRA rules and we can't deviate from it and if we (the Organisation) do they (PPRA) object. Money and finances are released to us from the finance ministry and if we don't get it on time we can't do anything similarly if our projects are not approved by the Planning Commission we cant do anything. If Economic Affairs Division doesn't get our loans approved we can't do anything. So there are a lot of organisations which directly affect us and we are dependent on other organizations for a lot of things". The respondents felt that due to internal as well as external i.e. intra organizational bureaucratic procedures and delays in decision making the practice of procurement is severely affected in the Organisation.

Need for Autonomy & Trust

The respondents felt that risk taking ability and decision powers are quite limited in public sector organisations as one respondent stated that “private and public are different we can take risks and break rules even for the betterment of the project”. Being a public sector Organisation the respondent felt that their Secretary or chief executive and other top level management comes from the civil service of Pakistan and the down side reported by the respondents is that the organisation is complex and technical which requires understanding of the nature of their work. As one respondent stated that “our top management comes from the government bureaucracy and railways is complex technical department it takes 1-2 years to get the top management acquainted with our systems by the time he or she is acquainted they get posted and we have to start all over again. This causes a lot of delays for us and decisions are held by the management due to lack of understanding of our complex organization. Our top management should be from our organisation who understands our working”. Furthermore regarding decision making powers and ability the respondents felt that since their organisation is not autonomous and there are other public sector organisations which influence the decision making this was reported to be a hurdle and caused time delays among other problems. As one respondent stated that “There are a lot of complicated things in railways and we are doing it on a daily basis. But our top management all they decide and it all depends on them even the top management can’t decide everything we are also answerable to other organisations and unless all are in cooperation then we can’t do anything. There is not one stakeholder there are many and their authority is higher we are doing execution only. If we don’t get the required input we can’t do it”. Another respondent stated “the affect of this on our procurement is severe we are dependent on these organisations to a great extent. We can’t function properly without them”. When asked about if there was any benefit of it most of the respondent stated in negative but one respondent reported that “the benefit that I think of this is that if something is not in the favour of our organisation it will be stopped and not implemented by these organisations otherwise its just a time delay and we cant decide for our own”. All the respondents felt a strong need for autonomy and decision

powers, they perceived this would improve the process of procurement in their organisation and would make the process work faster and better. The respondents also reported that lack of trust both internal and external to the organisation is another issue hampering procurement and decision making ability. As one respondent stated “lack of trust is another issue here and post audit makes officers fear of allegations after years and is very hard to defend so no one is ready to take a risk and make a decision”. Another respondent stated that “our main complex is that we ask someone to do something but we don’t trust that person”. A third respondent stated that “trust deficit is huge problem” while another respondent stated that “all the rules are there because they (organisation) don’t trust us and ask us to make technical committee, tender committee and other XYZ committee they just don’t trust our judgment and they think our interest is personal and not professional”. The respondents felt that unless this trust deficit is removed they can’t achieve anything.

Maturity and Development of the Organisation

The respondents felt that there was a need for maturity and development of the organisation the organisation had existed since 1890 and was still following archaic rules, regulations and processes and they felt the dire need for change. As one respondent stated that “change is definite and necessary and until change occurs then nothing can be achieved but change that is needed is positive change not negative”. In reply to a question about the how enabled and able the organisation is to respond to new changes in procurement all the respondents felt that the organisation is enabled to execute other forms of procurement if the government gives a proper framework for the execution and impart necessary training. As one respondent stated “if competent forum approves yes then we can follow other procurement rules. If the government decides our organization is enabled to do it but we need green signal from the relevant competent authorities with clear guidelines and framework”. At this stage they just follow the directives of the government but the organisation does not have its own capacity, capability and maturity and is also not enabled enough to handle it. The organisation has yet not matured enough to sustain the external and internal forces. Plus the respondents felt that political instability

has caused many other problems and has not let the organisation to become mature and developed. The respondents also felt that there was a need for increasing the capacity constraints of the Organisation by imparting more training to the staff as the staff lacked the capacity.

6.5.3.5 Culture

The culture was reported to be bureaucratic, also the Organisation preferred competition and lowest price which has resulted in an adversarial culture between clients and contractors. The respondents felt that there is lack of trust both on the client side and the contractor side as well as the general public. The respondents felt that culture was unnecessarily judgmental and biased as one respondent stated “people passed judgment on them unduly and they don’t see their own responsibility and actions”. The respondents also stated that personal and organisational bias was also very common as one respondent stated “if its anything is in the interest of the person or organisation then there are no rules but when it comes to other organisations and people they deliberately find rules just to object”. The respondents also stated that the pre-dominant inter organizational culture was that of ‘blame game’ as one respondent sated that “people threw responsibilities on each other and it’s a blame game. People in other departments and organizations don’t do their work”. Another respondent stated that “our culture is that we delay things unnecessary and like to do things under pressure and at the last minute”. It was also noted that attitude towards work was very casual and organisational slackness was one of the major causes of delays. The respondents also felt the environment in Pakistan was enabled to adapt to change but resisted change as one respondent reported that “since we are in a state of inertia and we don’t want to change and are afraid of change”.

6.5.3.6 Regulatory & Legal

The Organisation follows the PPRA rules among other Government rules and regulations. The respondents felt that the advantage of these rules is if they are followed properly it ensures transparency and lowest possible price. The disadvantage is that it takes a lot of time and it’s not fast track as usually it takes a year or more to procure under these rules. One

respondent stated that “to take advantage of this method you need to plan your procurement carefully in advance”. The respondents also stated that the rules and regulation are in contradiction to each other and the framework is not very clear which results in ambiguous interpretation of rules. The respondents felt the need for standard rules and regulations and also felt that there should not be precedence cases of relaxation rules which causes ambiguous interpretation of rules. This resulted in people finding legal loop holes and was reported to be a cause of unethical practices. The respondents also stated that there is no remedy if a person has ill will as nothing can be done about it, as one respondent stated that “you can’t stop ill will as the saying goes where there is a will there is a way”.

Another aspect reported by the respondents was that legislation in force for the railway sect is the Act for railways which was promulgated in 1890 which is 121 years old and does not fully cater for the present needs. It was also reported that in 2002 a Regulatory Authority Ordinance for railways was approved but has been defunct. Also for years the Government has been in a state of indecision whether to privatize the railways or not. The need for finances have pushed the organisation to start looking for other means of financing and procurement but the respondents reported that till yet there is no clear framework or guidelines available to consider the peculiar aspects of railways for such purposes.

6.5.3.7 Conditions of the Country / External Environment

The respondents stated that the economic and security situation of the country has always affected the Organisation and procurement. The respondents also elaborated this by stating that whenever economic sanctions were imposed on Pakistan due to toppling of democratic government by military regimes or test firing nuclear arsenal. This resulted in the inability of the organisation and Pakistan to secure loans or funds for its projects or dealing with most western countries for products and services. This led to the organisation funding their projects by using supplier credit and other means. The respondents reported that at the present there are no economic sanctions on the country but the global financial crunch as well as the recent natural disasters and war on terror has depleted the

national kitty and the organisation is having problems arranging financing for its projects. Although it may be noted that this has had a negative impact on the organisation but on the positive side has pushed the organisation to find other innovative methods of financing and procurement such as the case study project H. The respondents stated that all this has increased the cost of doing business in public sector in Pakistan.

6.5.4 Impact of Procurement on Successful Project Outcomes

The respondents stated that project procurement directly impact on successful project outcomes. As one respondent stated that “if all the rules are followed and procurement is properly planned than it is a win-win situation for the project as well as the organisation”. A respondent stated “the purpose of all these rules is to achieve successful project outcomes otherwise why the rules”. A second respondent stated that “procurement has impact on success and if we follow all the rules and regulations we will get a good thing and vice versa”. Another respondent stated “the purpose of all these rules is achieve successful project outcomes otherwise why the rules”. The respondents also suggested that procurement process and success depends on the people and the hard work and labour put in by these people. A respondent elaborated it by stating that “there is room for improvement for instance if the technical committee does their evaluation properly and in minimum possible time we would get better results in time and quality”.

6.5.5 Case Study Project G

6.5.5.1 Issues in Procurement Selection/ Choice

6.5.5.1.1 Delays in Getting Approvals

The choice for procurement of this project is of non-traditional procurement method of Public Private Partnership (PPP). The respondents stated that the decision to reach this conclusion was not quite simple and took a lot of time. As the project was originally constructed and opened for traffic in two phases in the year 1964 and subsequently in 1970 and was patronized till 1984. A total of 104 trains operated carrying over 6.0 million passengers annually. But due to lack

of investment in infrastructure, Rolling Stock, the operational efficiency was marginalised, causing increase of running time, lesser number of trains resulting in reduction of passengers and eventually closed in December 1999. In the case of case study project G the Government of Pakistan in December 2004 decided to revive the project and in October 2005 a government agency of a country was invited by the Government of Pakistan as the same organization had been quite successful in a similar project in a neighboring country to carry out a feasibility study of the project. In March 2006 the final report by this international governmental organisation recommended the revival of the project as a viable project for mitigating the commuter and traffic problems of the concerned city. The Government asked another international cooperation agency of the same foreign country to carry out a detailed study of the project and the submitted there report in May 2009. In May 2008 a separate organisation was setup with its own managing director under the Organisation 6 with the concerned provincial and district government as shareholder in the organisation. The share and stake of Organisation 6 in this project is 60% while that of concerned provincial government is 25% and the concerned district government is 15% according to their equity ratio. On the basis of the final detailed study the PC-I was approved by the Planning Commission in a meeting of Executive Committee of the National Economic Council (ECNEC) in September 2009, at a cost US\$ 1558.8 Million (Rs. 128.6 Billion). The respondents reported that from the initial decision to go ahead with the project in 2004 till September 2009 the formal approval had to be sought for the project which took 5 years.

6.5.5.2 Issues in Procurement Implementation

6.5.5.2.1 Lack of Understanding of PPP

The respondents reported that that the concept of PPP has not developed yet in Pakistan and especially their organisation and other public stakeholders of the project. The respondents felt that not many people are aware of the concept of PPP and how to implement PPP. Many are unaware of what is a concession agreement, what is the role

of the agency and the company. The respondents stated that at this point in time the capacity in their organisation and the other public stakeholders of the project has not developed to understand what PPP is and what its complexities are and what the problems and how to tackle them. And how it should be treated by their organisation and as well as the stakeholders. The respondents reported that there were no clear guidelines in their organisations and how to go about doing a PPP and hence the advisory service of a Public sector organisation responsible for PPP was being utilized to make the project reach its financial close.

6.5.5.2.2 Lack of Coordination and Cooperation between Stakeholders

The respondents reported that the project is suffering and is at a risk being scrapped because of lack of cooperation between the stakeholders of the project as well as the Federal and concerned provincial governments. The respondents stated that the project is to be funded by soft term loan from a development programme of Government of X country and an international cooperation agency of that country will arrange funding of 93.5% (Us \$ 1457.7 Million = Rs. 120.26 Billion) as foreign aid under special terms for economic partnership with a markup of 0.2% repayable in 40 years including 10 years grace period. 6.5 % of the total cost (US \$ 101.1 Million = Rs. 8.34 Billion) of the project for land acquisition, compensation for resettlement, port duties, administrative cost etc will be funded by the stakeholders according to their equity share. This loan would be extended to a company owned by the three stakeholders according to their equity share. But it was reported that the Chief Minister of the concerned province has requested the Prime Minister for re-lending of the loan to the organisation implementing the project on similar terms as that of the Provincial Government i.e. only foreign exchange risk be shifted to the organization and 8.2 % of interest amount be waived off. While the Organisation 6 was of the view that it would only agree being 60% stakeholder if the liability is picked up by the Government of Pakistan. This shifting of responsibilities and risks and general lack of coordination

and cooperation of the stakeholders to reach a consensus has put the project in jeopardy.

6.5.5.2.3 Land Acquisition, Rehabilitation and Resettlement

The respondents reported that the major infrastructure such as tracks and stations for the project already exists but it requires renewal and rehabilitation. One major problem with the project site is that since the original project was abandoned years ago the people have done a lot of illegal encroachment on the land and would require serious effort and money to get the land back and the resettlement of the people occupying the land. The respondents reported that there are 20,000 households living in informal settlements along the railway tracks will have to be evicted and relocated. It was also reported that the residents of the informal settlements have organised themselves into groups and organisations this has strengthened the negotiating power of the railway land informal settlements, whose communities have also made a number of proposals for changes and alternatives to the government's scheme. One respondent stated "relocating and resettling the communities is a herculean task and would require massive financial resources and strong political will of the government both of which seem to be lacking at the moment".

6.5.5.2.4 Risk Sharing and Contract Management Frameworks

The respondents reported that once the decision is made final regarding the mechanics of the risk sharing of the loan and other aspects then they would have to do an agreement between all the parties and stakeholders about roles responsibilities and expectations on mutually agreed terms and conditions. The respondents reported that there three public stakeholders on the Government level and as well as private and international stakeholders and they are not in consensus with the mechanics of risk sharing and contract management as explained above. The respondents envisaged that risk sharing would be balanced and would follow the example of other PPP projects in Pakistan. But the contract and risks are not yet decided and would be agreed mutually. One respondent stated that "this is quite new for us as an organisation

but similar things have been done in Pakistan before and would follow that model". Another respondent stated that "arranging financing and reaching an agreement with the stakeholders is a very daunting task in itself as every one has their own agenda and is not willing to negotiate and compromise". The respondents also reported that since the project is on soft term loan but there are conditionality of the loan that they are to procure the equipment and machinery or any raw material required from the country providing the loan so that makes their choice limited . One respondent stated that "we have to buy it on the price the suppliers in that country would be selling it for so our choice and options have become quite limited". On the positive side the respondents felt that the involvement of private international party would be a driving force for the organisation as a respondent stated that "when a foreign party comes since their money is involved they would be forcing us to do work even if we are not and that push would ensure effective implementation of the project". It is to be noted again that project is on loan and the money has to be returned with markup the international government agency has no stake in the project nor liability although the project has been termed as public private partnership it seems to be supplier credit as the previous projects of the organization.

6.6 Organisation 6

6.6.1 Procurement Selection/ Choice

In this Organisation the pre-dominant method of procurement is the traditional method but the Organisation has experience of other non-traditional methods such as PPP, the case study below is an example of this method. The respondents reported that the mostly they follow the traditional method of tendering and competitive bidding as it is binding by the PPRA rules as well as the government rules for most procurements but projects can also be procured by using non-traditional methods with prior consent and approval from the relevant authorities and forums. The respondents also stated that most of their procurement decisions are based on project cost and project requirements and are on a case to case basis. The whole procurement process is structured around these two main factors.

6.6.2 Issues in Procurement Selection/ Choice

6.6.2.1 Need for Finances

The respondents reported that there scarcity of financing and the Organisation and the Government has been looking at other alternatives means to fund its projects. As one respondent reported “in our Organisation we have done projects through Public Private Partnership (PPP) and we are also looking at leasing the land the organisation owns to increase our revenues”. The respondents also reported that the country is going through fiscal constraints and natural disasters which have almost depleted the national kitty. The respondents reported that in aviation industry technology and infrastructure are quite capital intensive and the need is massive the Organisation alone does not have resources enough to bridge this gap.

6.6.3 Issues in Procurement Implementation

6.6.3.1 Risk and Contract Management

The risk and contract management as reported by the respondents involves using standard contract agreements prescribed by different governmental institutions in which roles, responsibilities, liabilities and duties of each stakeholder of the project are clearly outlined. As one respondent stated that “we follow PPRA rules and standard contract agreements prescribed by our organization and other competent and authorized public sector entities”. The respondents also stated that they follow there organizations prescribed risk management guidelines as in PPRA rules the risk management framework is not quite clearly outlined. The respondents stated that the majority of the risks are taken by the contractors, suppliers and consultants and only a few risks are taken on by the Organisation and the Government. The organisation also takes securities, bonds and guarantees from the contractors, suppliers and consultants.

6.6.3.2 Principles of Procurement

The respondent reported that following PPRA rules is mandatory and a legal binding on the Organisation among other Federal Government regulations. The respondents reported that most of the rules, regulations and procedures of PPRA and the Federal Government are targeted at achieving

transparency, competition and least cost. The respondents also stated that although the PPRA rules mandated value for money but at the same times obligates to use competitive method of procurement which the respondents felt does not fully cater to principles for value of money but rather the emphasis is on least cost and competition. The Organisation has its own evaluation criteria and procedures for selection of bidders according to PPRA rules as well as other Government rules.

6.6.3.3 Political

The respondents felt that political interference is an impediment to the procurement and successful implementation of projects. The respondents felt tht due to political interference the unqualified contractors and consultants are selected which cannot implement the project effectively. Also the respondents stated that political interference has caused a lot of problems in land acquisition for projects as they lobby to increase the price of land to abnormal prices and has costed huge financial loss to the organisation. The respondents stated that land mafias arise due political interference and support and which have became so powerful that a project director who stood up to the land mafia and refused to participate in unethical practices was gunned down in his site office.

6.6.3.4 Inter and Intra Organisational Issues

Bureaucratic Procedures

The respondents felt that the organisation a plethora of bureaucratic procedures which were delaying project procurement and implementation. The respondent felt that the whole process was quite cumbersome and delayed the decision making process. The respondent also stated that inter and intra organisation processes and approvals was the cause of delays in getting decisions and consents and was an impediment to effective implementation. The respondents said that their organisation has recently gone through restructuring and reforms so as to improve streamline and remove some of these procedures for effective management. But the respondent further stated that even if they improved and streamlined their procurement processing time and procedures they are still dependent on other organisations for consents and approvals and requires constant follow

ups and most of these organizations are negligent to the Organisations as well as project requirements and needs which results in loss of valuable time and effort.

Need for De-Centralising Procurement and trust

The respondents reported that the organisation follows a centralised procurement route with a general manager responsible for central procurements. The respondents felt that because of central procurement a lot of delays in processing of procurement resulted as the organisation is quite huge and all of the procurement has to be processed through the central procurement unit which resulted in massive workloads and delays in processing. As one respondent stated that “for both major and minor procurements we have to go through the central procurement unit and the unit is overwhelmed with heaps of paperwork and workload”. The respondents felt a need to decentralize the procurement and trickle down decision making powers down the chain so as to speedily process the procurements and avoid delays. The respondents also felt that the central procurement was a result of lack of trust by the organisation on its employees when it came to decision making regarding procurements. As one respondent stated that “this inherent lack of trust is hampering work one just don't feel motivated and you just start not caring about the organisation as no one trusts you anyway!”. This lack of trust is damaging the motivation and loyalty to the projects and organisation itself and the respondents felt the need to bridge this gap of mistrust for effective implementation and management of projects.

Maturity and Development of the Organisation

The respondents felt that there was a need for maturity and development of the organisation and felt that by identifying this need the organisation has been through some reforms recently. This included a restructuring and change management process to meet the present and future challenges. The organisational transformation process identified structure, culture, skills, and rewards as four tracks on which simultaneous emphasis was being laid. The respondents also stated that the reforms were also targeted to bridge communication gaps between different hierarchical levels of the

organisation. As a result of the restructuring process, the fundamental organisation structure has been reported to be balanced so as to focus on three core areas namely regulatory, air navigations services, and airport services. The respondents also reported that the restructuring process has helped the Organisation to focus on the following:

- Strengthening its safety and security oversight role as per International Civil Aviation Organisation requirements and standards.
- To facilitate growth of the infrastructure development (Airports and Airport Cities) on a fast-track basis. Private sector participation in the process is also being encouraged.
- Enhanced Regulatory and air space management capabilities. Moreover, emphasis was being laid on commercialization of its assets and land with improved customer / passenger service standards, benchmarked with top performing international airports
- Development of a New Aviation Policy for the country in consultation with the consultation of all stakeholders was expected to be considered by the Cabinet for approval shortly.
- Investing in Human resource development through structured approach with particular focus on quality of people and enhancing their professional capability.

The respondents also reported that initiatives were underway on new initiatives such as introduction of Enterprise Resource Planning (ERP), Health, Security, Safety, and Environment (HSSE), Corporate Social Responsibility (CSR), Ethics Management Program, Customer feedback mechanism at the airports, Employees Performance Management system, benchmarking, outsourcing of non-core and wasteful activities, etc. The respondents also reported that the Organisation has also embarked upon a challenging phased program to acquire international standards of Integrated Management System (IMS) during which the international standards of ISO 9001:2000 (Quality Management System), ISO 14001:2004 (Environmental Management System), and OHSAS 18001:2007 (Occupational Health and Safety Management System) shall also be acquired by the organisation in due course of time.

The respondents also stated that this change process will not be implemented immediately in totality but would be phased. As the organisation realizes the fact that change management is gradual process and needs constant reforming otherwise the resistance to change can jeopardise the functioning of the whole organisation negatively.

6.6.3.5 Culture

The respondent reported that the culture in their organisation and the way processes were structured is quite bureaucratic. As one respondent stated that “we have a lot of bureaucratic red tapes in our organisation”. The respondents also reported that this bureaucratic attitude is not only exclusive to their organisation alone but the organisations they interact with exhibit the same culture. The respondent also felt that there was lack of trust between client and contractors as well as the general public and the nature of the relationship was quite adversarial. The respondents also felt that change had been undergoing in their organisation and were quite hopeful that things would change for the better in due course of time.

6.6.3.6 Regulatory & Legal

It is mandatory for the Organisation regarding procurement to follow PPRA as well as other Federal Government rules and regulations. The respondents stated that these rules and procedures are protracted and onerous. They felt that these rules are source of time delays in procurement but they have no other choice but to follow these rules otherwise non-compliance of these rules may be deemed as mis-procurement. The respondents also stated that following plethora of rules and regulations is not free on contradictory rules and misinterpretation of these rules is quite common practice. The respondents also reported that there are many legal loop holes in these rules which both public and private entities from time to time have used for their exploitation. The respondents also felt that there existed some legal and regulatory obstacles which were hampering revenue possibilities for the Organisation such as the previous i.e. 1985 land lease policy of the Organisation which was reformulated in 2001. In the previous policy land lease was in the Organisation was limited and remained confined to the bare necessary operational requirements involving oil

companies, airlines and handling agencies etc. With the addition of new policy a new environment emerged requiring exercise of more administrative and financial autonomy to generate revenue for the Organisation through large scale commercial exploitation of its lands. The respondents reported that with the formulation of new Land Lease Policy various alternatives were considered for revision of standard formats for execution of lease, comprising different tenures, terms and rates along with their financial impact. The respondents reported that the new land lease policy has been able to remove the irritants and to soften the rigid components without compromising the Organisation's interest with a view to make the Policy more attractive as well as investor friendly. The respondents stated that in the police elements of negotiations, rational pricing, payments re-structuring, period/tenure flexibility and autonomy, both administrative and financial has been fully incorporated.

6.6.3.7 Conditions of the Country / External Environment

The respondents stated that conditions of the country most notably economic conditions and the prevailing law and order and security situation have direct impact of their Organization as well as procurement and implementation of projects. The financial and economic constraints have resulted in the Organisation to consider other innovative methods to increase revenues and finance their projects. The respondents also stated that the financial, economic and security situation in Pakistan has increased transaction costs and increased the over all cost of doing business in Pakistan.

6.6.4 Impact of Procurement on Successful Project Outcomes

All the respondents stated that procurement had a direct impact on project outcomes. As one respondent stated "if you procure the wrong contractor or consultant that you wont have the required standard of the project you want". The respondents viewed project procurement as having a direct impact on successful project outcomes. As one respondent stated that "why do you have all these approving forum and rules and regulations? Because it's for getting the desired outcomes and that is success to me".

6.6.5 Case Study Project H

6.6.5.1 Issues in Procurement Selection/ Choice

6.6.5.1.1 Delays in Getting Approvals

The choice for procurement of this project is of non-traditional procurement method based on Public Private Partnership (PPP) basis. The respondents stated that the decision to reach this conclusion took a lot of time. The project was repeatedly requested by the citizens and business community of the area and after decades of requests the construction of the airport was finally approved in February 2001 by the President of Pakistan. It was followed by the creation of a special purpose company to build-own-operate (BOO) the airport. In February 2001 a Memorandum of Understanding (MoU) signed between the Chamber of Commerce of the city and the government authority responsible for Civil Aviation in Pakistan with the approval of the concerned Ministry for the construction of international airport. To build the new airport a highly reputed national consulting company was contracted to develop the master plan and after much deliberation and consultation over two years, an integrated plan was finalized and approved by the Aviation Authority concerned and meets all requirements of national and international regulations and standards. The construction of the airport began in January 2003.

6.6.5.2 Issues in Procurement Implementation

6.6.5.2.1 Financing and Government Contribution

The respondent reported that airport was costly infrastructure and needed huge finances to cater for this the special company was created which has more than 330 directors, each of which having Rs. 5.0 million in capital invested in the project as a primary investment. Rs 230 million were provided by the Government of Pakistan for land acquisition being given to the Company as soft loan on long term basis and land as Government equity. Project was implemented through 100% equity financing and costed almost Rs 2.0 Billion. Almost all the finances was raised from the private sector that is why some of the respondents termed the project on self help basis rather than the PPP as they

perceived that the contribution by the government for land acquisition was very nominal.

6.6.5.2.2 Risk Sharing and Contract Management Frameworks

The respondents reported that the project was initiated and financed by the private sector and the government only provided finances for land acquisition. As such the government had no direct stake in the project hence no risk for the government all the risk was borne by the special purpose company created which included risk for construction, finance and operation. Also the revenue generated are taken by the project so they had almost no formal risk sharing and contract management frameworks with the government apart from conforming to the regulations and standard outlined by the aviation authority concerned.

6.7 Summary

This chapter has identified the different procurement choices and reasons for a particular choice, the issues in procurement choice and the issues in procurement implementation in the public sector organisations in Pakistan. It has also described the impact of procurement practice on successful project outcomes. A Total of 6 organisations and 8 case study projects were selected as individual cases for exploration of procurement practices in infrastructure in public sector. As a result multiple issues have been identified which affects the choice of procurement such as the need for efficiency and finances, client objectives, timely policy decisions, clarity of clients needs, delays in bidding and response, delays in approvals, proposal and bid evaluation procedures, need for relaxation of rules and project characteristics. The barriers and constraints to implementation of procurement have also been described in detail above the major barriers reported are regulatory and legal, risks and contract management, principles of procurement, political, culture, inter and intra organisational issues, conditions of the country, lack of understanding, land acquisition, project revenue and finance Issues. The impact on successful project outcomes in case of public sector infrastructure projects in Pakistan has also been described in detail. The chapter maps the on going processes and practice of procurement in public sector in Pakistan. The issues that were identified from the interviews are categorised and summarized in the Table

6.1 below which gives a complete picture of the procurement practice in these 6 public sector organisations.

Table 6. 1: Summary of Interview Responses

Case Organisation	Org 1				Org 2					Org 3					Org 4				Org 5				Org 6	
Respondents	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Issues in Procurement Choice	Need for Efficiency and Finances	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	✓	✓	✓	✓	✓	✓
	Client Objectives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Timely Policy Decisions	✓	✓	✓	✓	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
	Clarity of Clients Needs	✓	✓	✓	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-
	Delays in Bidding & Response	✓	✓	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-
	Delays in Approvals	-	-	-	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓
	Proposal & Bid Evaluation Procedures	-	-	-	-	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Need for Relaxation of Rules	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	-	-	-	-	-
	Project Characteristics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Issues in Procurement Implementation	Regulatory & Legal	✓	✓	-	-	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	-	✓	✓	✓	-	✓	✓	
	Risks & Contract Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Principles of Procurement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Political	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Culture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Inter & Intra Organisational Issues	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Conditions of the Country	-	-	✓	✓	-	-	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	-	✓	✓	✓	-
	Lack of Understanding PPP	✓	-	✓	✓	✓	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	✓	-	✓	✓	✓
	Land Acquisition Issues	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓
	Project Revenue Issues	-	-	✓	✓	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
	Finance Issues	-	-	-	-	✓	✓	✓	✓	✓	-	-	-	-	-	✓	✓	✓	✓	-	-	-	-	✓
Lack of Success with PPP	-	-	-	-	-	-	-	-	-	✓	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	
Impact on Successful Project Outcomes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Chapter 7

Cross Case Analysis

In this chapter the cross case analysis of the case study organisations is presented. The cross case analysis is based on two tactics firstly to select categories and look for within-group similarities and differences based on similar method of procurement. Secondly to list similarities and difference between all the case studies identified. The aim here is to efficiently portray the big picture of procurement practise and enable the comparison of different cases which would not have been possible otherwise.

7.1 Procurement Selection/ Choice

In the organisations there are different methods of procurement that can be described as traditional and non-traditional procedures. The choice of procurement largely depends on the client's objectives including Government directives and policy, project characteristics including technical complexity and cost and performance requirements as is clear from the Table 7.1 below.

Table 7. 1: Factors Affecting Choice of Procurement

Case	Client Objectives		Project Characteristics		
	Government Directives	Policy	Technical Complexity	Cost	Performance Requirements
Organisation 1	✓	✓	✓	✓	✓
Organisation 2	✓	✓	✓	✓	✓
Organisation 3	✓	✓	✓	✓	✓
Organisation 4	✓	✓	✓	✓	✓
Organisation 5	✓	✓	✓	✓	✓
Organisation 6	✓	✓	✓	✓	✓

In both types of procurements they have different options, they have competitive bidding, they have negotiated bidding, they have solicited proposals and they have unsolicited proposals. Regarding pros and cons of these options negotiated bidding was seemed to reduced time, open competitive bidding was found to be more transparent but took more time, unsolicited proposals were also felt to reduce time but they had a risk of price hike, competitive bidding

also reduced the price but was poor on quality. This is the standardised way procurement was done in these organisations. In almost all of the organisations competitive bidding was the preferred process as also prescribed under the law. Also based on cost, technical complexities, magnitude or funding agency of the project they decide on the bidding environment i.e. to go for National Competitive Bidding (NCB) or International Competitive Bidding (ICB). It was observed that the international lending agencies preferred the use of ICB when funding government infrastructure projects.

The process of procurement involves first pre-qualification of firms they have their criteria according to the rules and regulations of the government. Once a firm is pre-qualified then they invite technical and financial proposals or bids and evaluate these according to the criteria set by the government and the organisations. For proposal and bid evaluation the organisations constitute a procurement committee, the criteria for membership to the committee depends upon the cost of the procurement for instance if the procurement is of higher cost than the high ranking officers of the organisations constitute the membership of the committee and so on and so forth. The process is stated to be on a case to case and project to project basis for instance if the project is technically complex then they give more emphasis to the technical aspects of the bid or proposal the ratio range under rules is usually 50-50 and 80-20 i.e. 50% or 80% to technical and 50% to 20% to financial aspects of the proposal and vice versa. In most of the cases they follow single stage two envelope process as also illustrated by Table 7.2 below.

Table 7. 2: Process of Procurement

Case	Prequalification of Consultants	Prequalification of Contractors	Single Stage	Two Stage
Organisation 1	✓	✓	✓	✗
Organisation 2	✓	✓	✗	✓
Organisation 3	✓	✓	✓	✗
Organisation 4	✓	✓	✓	✗
Organisation 5	✓	✓	✓	✗
Organisation 6	✓	✓	✓	✗

From the respondents it was quite evident that the predominant method of procurement in case of infrastructure projects in almost all the organisations

was that of traditional method of procurement. This is illustrated in the Figure 7.1 below which shows that all except Organisation 2 which employed only non-traditional method of procurement as per government and policy guidelines and is specialised organisation in case of non-traditional form of procurement in Pakistan.

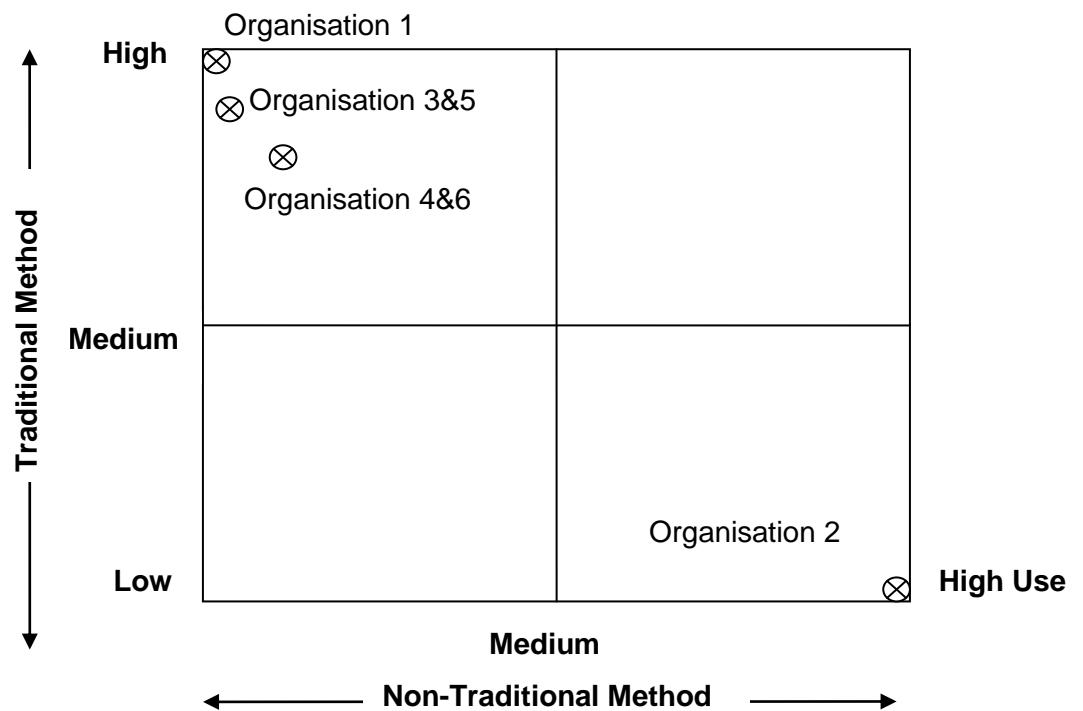


Figure 7. 1: Predominant Method of Procurement across Cases.

7.2 Issues in Procurement Selection/ Choice

Regarding issues in procurement selection Figure 7.2 below summarises the issues affecting procurement choice and selection identified by the respondents while Figure 7.3 below gives percentage of the respondents identifying the issues.

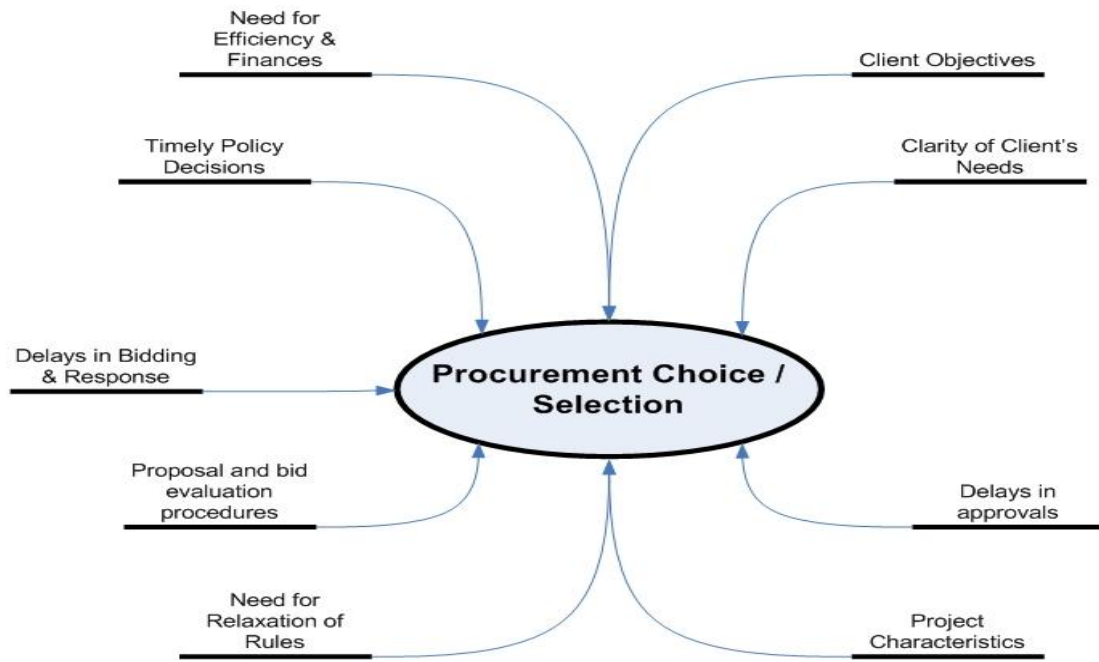


Figure 7. 2: Issues Affecting Procurement Choice

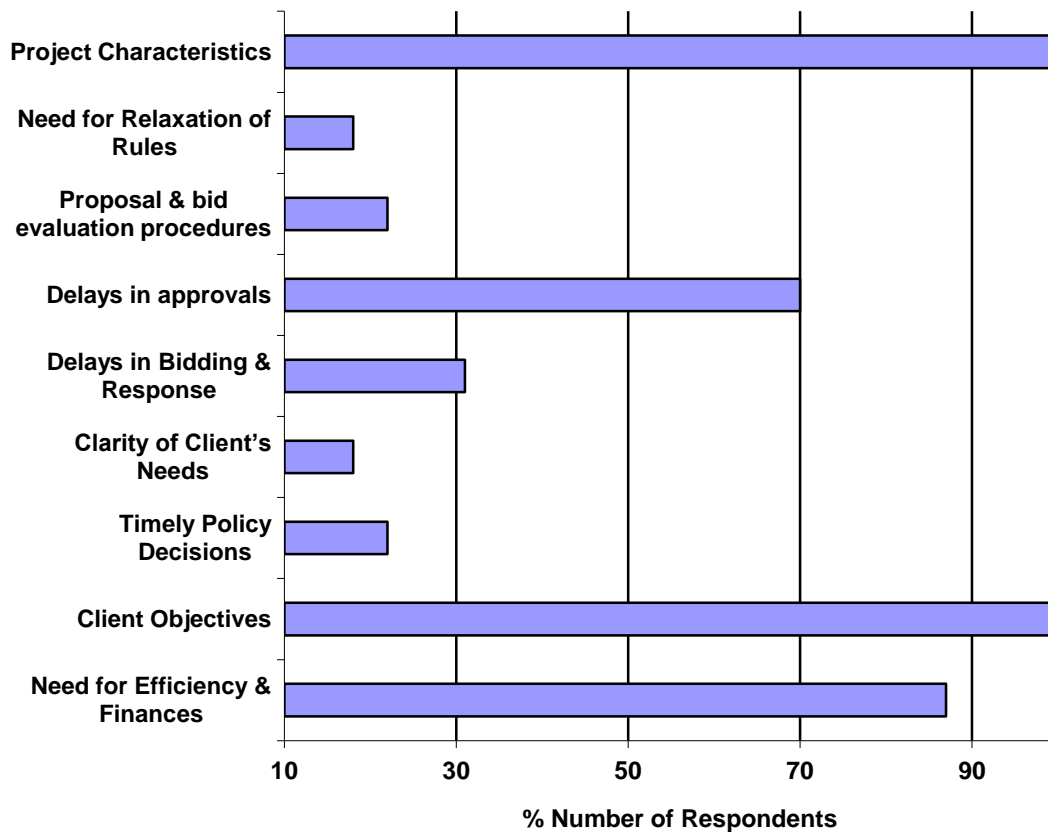


Figure 7. 3: Issues in Procurement Choice by % of Number of Respondents

Project Characteristics and Client Objectives

From Table 7.1 and Figure 7.3 above the most important deciding factors in selecting any procurement route are the project characteristics and client objectives. In case of project characteristics the two important aspects reported by respondents are the technical complexity of project and the cost of the projects. In case of client objectives the two most important aspects are Government directives and policy.

Need for Efficiency and Finances

From the above table and figure it is quite evident that the respondents felt that the need for efficiency and finances are the main issues for choosing a certain procurement method in their organisations. There is paucity of funds in public sector for infrastructure projects while there is huge demand for efficiency and infrastructure. The enormous quantum of required investment compared with the constrained funding potential of the national exchequer, was not conducive to allocation of scarce government funds for infrastructure projects. The country is going through fiscal constraints and natural disasters which has pushed the national exchequer to the brink of collapse as a result of this the organisations are suffering severely of financial constraints and had to abandon a lot of projects and cut down on expenses so as to keep the organisations operational. In their quest for finances and efficiency quite a few of the organisations have attempted to adopt other methods of procurement including the non-traditional methods such as PPP and also have found other means to finance projects ranging from lender financing to supplier credit. A few of the organisations have had limited success with the non-traditional forms of procurement and while in case of organisation 3 in which the respondents stated that they have had almost zero success with adopting non-traditional method of procurement. Some of the respondents also reported that since there is dire need for financing infrastructure projects and felt that the organisations should capitalize on investment opportunities and should adopt innovative methods and reduce bureaucratic procedures.

Timely Policy Decisions

Considering Figure 7.3 above and respondent responses from previous chapter 6 it is quite clear that efficient infrastructure procurement depended on the

timely policy and senior government level decisions. These included what to do in which project and which path to take and within this defined path they have limited options. If the decisions did not come timely it affected the project procurement and subsequently project implementation adversely.

Clarity of Client's Needs

Another problem that respondents felt was common to mostly non-traditional procurement was clarity in clients needs as it was reported that clients were not very clear on what they wanted and how in case of non-traditional procurement. It was also observed that clients needed to make timely decisions on what they want made and how as well as has for how much which unfortunately was a problem in organisations. Another aspect that comes out regarding non-traditional procurements was that the organisations were not very clear on the potential of their PPP projects.

Delays in Biddings and Response

4 out of 6 organisations reported that the delays in bidding and response as well as the delays in attracting interest was mostly attributed to the conditions of the country which included security situation, political, environmental, policy, economic among other aspects. It was also observed in case of ICB the above issues were of much more significance to international bidders than in case of NCB. In Organisation 3 were it was reported that one big project could not attract interest in ICB environment and when they were broken down to smaller projects and the bidding environment was changed to NCB, they got better responses. With the exception of organisation 4 in which the respondents felt that even with NCB they got even less response as of the precarious security situation of the geographic locality in which this organisation operates. Among all the 4 organisations reporting this issue it was observed that all respondents felt that delays in bidding and response as well as attracting interest from prospective parties affected the project procurement and implementation and often resulted in higher cost of construction and increased cost of project.

Proposal/Bidding Evaluation Procedures

The proposal and bid evaluation procedures have been found to be bureaucratic and cumbersome and causing in delays in selection of consultants,

contractors and private parties. In case of organisations 1,3,4,5 and 6 and especially traditional procurement the process has been found to cause of delays of up to 15 months or more. In case of non-traditional procurement and especially organisation 2 they had three different procedures one of which had been made defunct due to delays and other issues while the other two are still functional but exhibit similar delays as in case of traditional method but are being reformed to fast track the procedure as discussed in chapter 6 in detail.

Delays in Approval

Delays in approvals are one of the major issues in procurement selection as is also evident from Figure 7.3 above. All of the organisations reported delays in approvals in both the methods of procurement. The root cause of delays in approval has been largely attributed to government policy and bureaucratic procedural processes of the government. These delays also have both inter and intra organisational dimensions.

Need for Relaxation of Rules

Although only one organisation i.e. organisation 4 categorically reported the need for relaxation of rules due to the special circumstances, requirements and constraints of the geographic area in which the organization operates. However from the respondents of all the other organisations it is quite evident that rules are perceived as impediment in procurement selection as well as procurement implementation in both traditional as well as non-traditional methods of procurement. And respondents feel the need for relaxation of these rules for effective procurement and implementation of infrastructure projects.

7.3 Issues in Procurement Implementation

Regarding issues in procurement implementation Figure 7.4 below summarises the issues affecting procurement implementation as identified by the respondents while Figure 7.5 below gives percentage of the respondents identifying the issues.

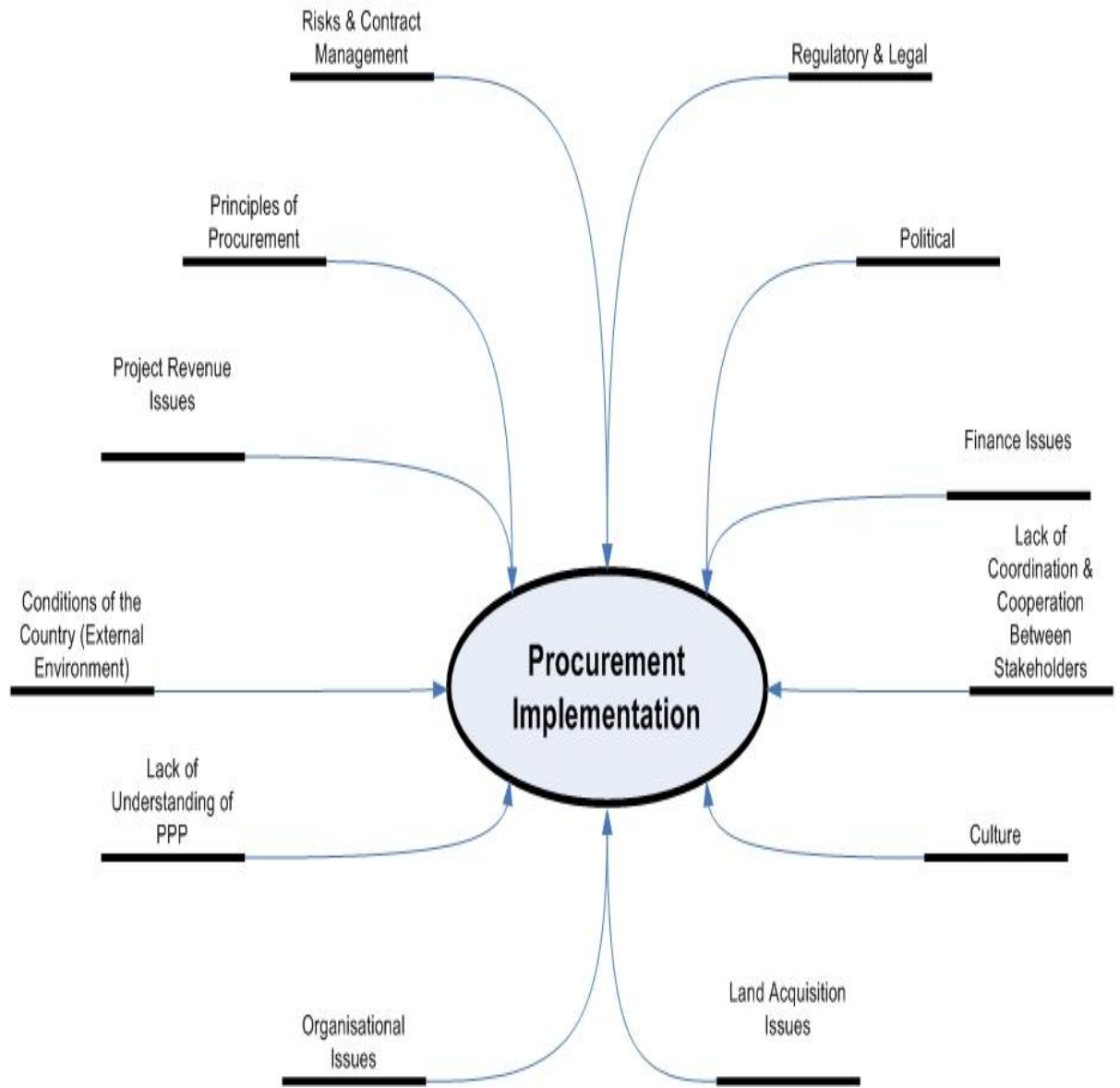


Figure 7. 4: Issues in Procurement Implementation

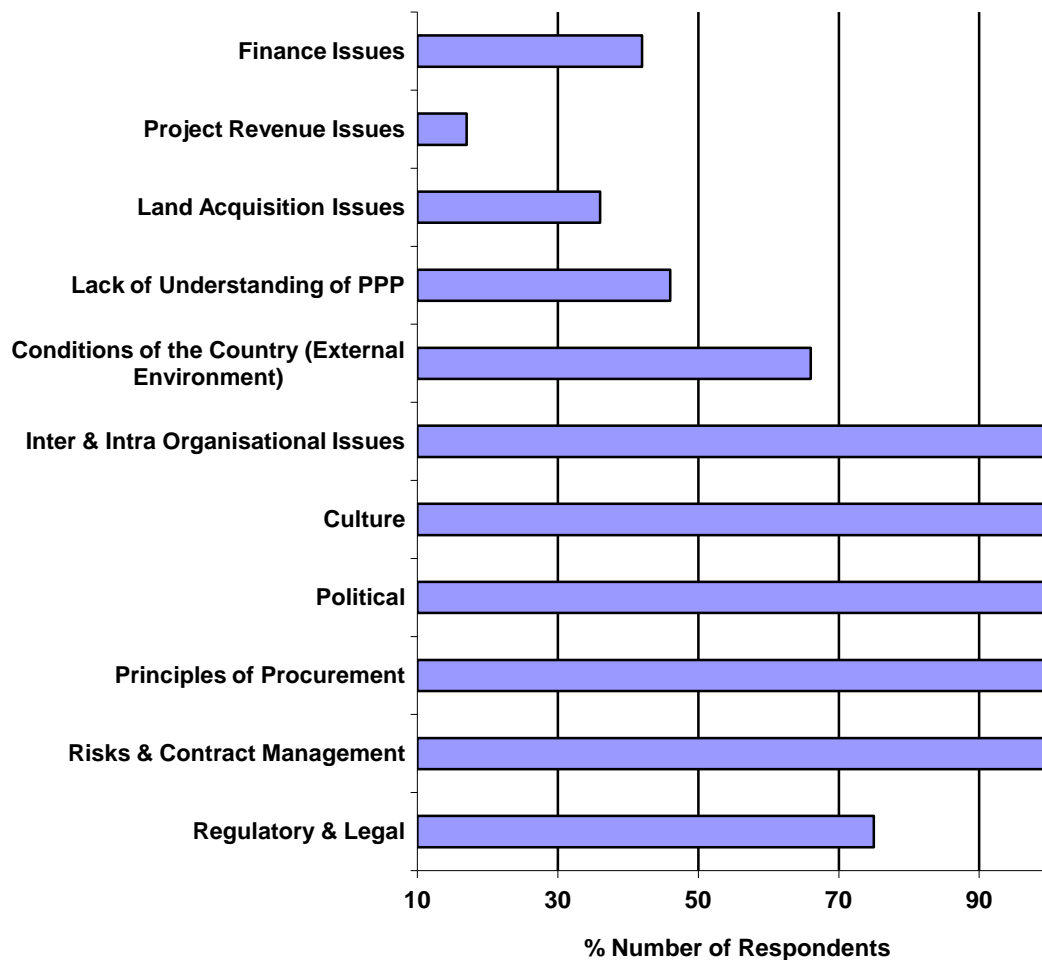


Figure 7. 5: Issues in Procurement Implementation by % of Number of Respondents

Regulatory and Legal

From figure 7.5 above and from the independent case analysis it is quite clear that regulatory and legal issues have a profound affect on the procurement implementation in case of infrastructure projects in Pakistan. In almost all of the cases and in both methods of procurement the respondents reported that there were a number of issues related to the laws, rules, regulations and the interpretation of these rules that were quite contradictory to each other as result of which the respondents felts that no one was willing to take the risk to make decisions. The respondents also felt that the rules and regulations as well as the legal requirements which they are presently following have lots of lacunae. These lacunae have been the source of varied interpretations of rules and regulations. The respondents also reported that there have been many instances of different interpretations as

well as there are a lot of regulations which are in conflict with each other. The respondents felt that due plethora of legal formalities and requirements a lot of loop holes in the system have been noted and these loop holes have regularly being exploited by both the client and contractor sides as well. The respondents felt the ambiguity in rules and regulations is quite an impediment in procurement implementation and successful delivery of projects in their organisations and felt that a much clearer framework was required. The respondents stated that these rules and procedures are protracted and onerous. They felt that these rules are source of time delays in procurement but they have no other choice but to follow these rules otherwise non-compliance of these rules may be deemed as mis-procurement. The respondents also reported that there are many legal loop holes in these rules which both public and private entities from time to time have used for their exploitation. In case of Organisation 4 in which the respondents felt that there was a need for flexibility of rules so as to avoid issues in project implementation and execution. Another problem reported by the respondents was that the general trend in project procurement and implementation is either following the rules too strictly or not abiding by the rules. This dilemma has been reported to be on both sides of the procurement which causes problems in project execution as well as procurement. The respondents also felt that exploiting the loop holes and gaps in the system has become common practise these days and it is creating problems in project execution and implementation. The respondents also reported that these practises are not only motivated for personal gains but felt that political backing is also a source of the problem. The respondents felts that there is corruption and presence of practices which can be deemed to be corrupt practices with in public sector and construction industry in Pakistan. One reason that nothing can be done about it is the presence of a weak legal and regulatory framework and systems. In the absence of weak regulatory and legal systems and the level of corruption going on in the country and construction industry the organisation is unable to effectively implement their projects. Another issue related to regulatory and legal aspect of procurement reported by the respondents was that the litigation process was very slow and time consuming in Pakistan. The respondents also felt the rules did not support

fast track implementation which was the need for the organisations. It was interesting to note that rules and regulations at one time were reported by the respondents to be an impediment and at the same time were stated to be needed for effective implementation.

Risks and Contract Management

The Figure 7.5 above as well as the individual case analysis in previous chapter 6 in detail clearly identifies the importance of risk and contract management in case of infrastructure procurement in public sector in Pakistan. In the case of traditional procurements and organisations 1, 3, 4, 5 and 6 all the respondents stated that their organisations have a standard contract document, which is prepared by the Pakistan Engineering Council (PEC) and prescribed by the Government of Pakistan. The respondents also reported that the documents are based substantially on the guidelines of the International Federation of Consulting Engineers (FIDIC) with minor variations which are peculiar to the Pakistani environment. Unlike FIDIC which is more or less pro contractor, the contract documentation in these organisations are more pro client. In these standard contract agreements the roles, responsibilities, liabilities and duties of each stakeholder of the project are clearly outlined. The organizations are mandated to follow PPRA rules but in these rules the risk management framework is not clearly provided. The majority of the risks are borne by the contractors and consultants and only a few risks are taken on by the organisations and the Government such as natural disaster etc. The organisations also took securities, bonds and guarantees from the contractors and consultants. It was observed that although the respondents were aware of the risks but they also reported that the organisations did not have a proper risk management framework as explained above where they assign values to risk, maintain a risk profile and risk register etc. Such formal procedures for risk management are almost non-existent in the public sector in Pakistan. The main reason reported was that the Government of Pakistan is quite risk averse and most of the risks are transferred to and taken up by the contractors.

In case of non-traditional procurement i.e. PPP and organisations 1, 2, 5 and 6 the risk identification is done at the planning stage. In case of PPP they also conduct commercial feasibility where they identify the risks and assign the party which must bare the risk. It was also reported that like the traditional procurement the organisations try to transfer as much as risk to the private parties as possible. The respondents reported that there is a practice and a continuous battle of trying to transfer as much risks to the other party in case of PPPs. But the respondents felt that in PPP it needs to be a balanced approach transferring of risks unduly is not good for both the parties and results in failure for both the parties, it effects all and in the end its a loss to the construction industry, it damages the investment in the country and is a loose-loose situation for everyone. However it was also observed that there is not a standard criteria for risks being taken by the government for instance in case of power sector and organisation 2 the organisation is much more flexible in taking on the risks for instance political risks are taken by organisation 2 while the same is not the case for the remaining organisations. Also certain incentives which are made available by the government for PPP in power sector such as tax incentives etc are not available for other infrastructure sub-sectors in public sector in Pakistan. It has also been reported by the respondents that because most of the projects are internationally financed projects and banks and other financial institutions are very sensitive to their money so they safeguarded each and every aspect of the risks. However again in case of non-traditional procurement it has been observed that there is neither standard framework for risk management nor a standard policy for risk management as well as policy incentives and guidelines across sub-sectors of infrastructure. The organisations involved in PPP have standard concession agreements in which they do minor variations from case to case and project to project basis.

Principles of Procurement

Principles of procurement i.e. transparency, accountability, competition, value for money and ethics have been reported to be important for respondents across all organisations and both methods of procurement as it is clear from the Figure 7.5 above and the individual case analysis in

chapter 6 previously. It has been reported that the focus of the government rules and regulations especially PPRA is on transparency and competition only. Although the rules stress for value for money but value for money has not been clearly defined in these rules. In the public sector in Pakistan it is perceived that following a competitive process and getting the least cost was value for money, the lower the cost of the bid the better the value for money it is considered. The respondent also reported that since the promulgation of the PPRA the process of procurement has become more cumbersome and time consuming but it has increased transparency and accountability of public procurement. The respondents stated that in the past there had been numerous instances of unethical behavior and lack of transparency and accountability in the public sector procurement domain such as incidents of advertisements in dummy newspapers, falsified documentary evidence for claims of work and experience, backdoor entry of contractors etc. The respondents also felt that the unethical behaviour and practices had been on both sides i.e. the public and the contractor or consultants as well. It was also reported by the respondents that there is distinct lack of trust by the general people and the government regarding procurement of works and services by public sector employees. An interesting fact here to be noted is that the rules and regulations are perceived to be cumbersome and causing delays but essential for transparency and accountability but at the same time respondents felt that the stringent rules show the lack of trust by the Government on its employees.

Political

Political factors have a major influence in all the organisational case studies and in both methods of procurement i.e. traditional and non-traditional methods. This is also clear from the Figure 7.5 above and the previous chapter 6. All the respondents collectively reported the instable political environment of the country, instability in policies and use of political pressure and influence have adversely affected infrastructure project procurement as well as implementation in all the organisations. The respondents felt that political interference is an impediment to the procurement and successful implementation of projects. The respondents

felt that due to political interference the unqualified contractors and consultants are selected which cannot implement the project effectively. It has also been noted that politically well-connected individuals and corporations usually get projects awarded on a less than full competitive basis. Also the respondents stated that political interference has caused a lot of problems in land acquisition for projects as they lobby to increase the price of land to abnormal prices and has costed huge financial loss to the public sector organisations. Also the political instability has caused many other problems most importantly has not let the organisations to become mature. Most of the respondents stated that political factors are the most severe to influence. Another interesting fact reported by the respondents was that of political will, if there is no political will or political backing behind the project then that project can not go further and couldn't progress. Political will is very necessary for projects in public sector organisations to succeed. Political support of from both the provincial and federal governments has become a requirement for organisations to successfully carry out intra-provincial as well as other projects.

In case of traditional procurement only the respondents from organisation 4 reported that due to the geographic nature of the area they operate it and because of the governance structure i.e. Governor Rule and tribal customs and traditions they stated that they did not face any political pressures during procurement. The respondents stated that there was no political interference in the implementation mechanisms of the organisation. But the respondents felt that if organisational and political will as well as the will of the project stakeholders is there then projects do get completed on time and within budget.

Apart from organisation 2 which have to some extent covered political risks all the organisations engaging in PPP projects reported that the framework for PPP transactions at both federal and provincial levels and exposure to political and regulatory risk over a long PPP period is still remaining constraints in these organisations. The respondents felt that due to the lack of a cohesive government policy and strategy the management of PPP projects could not be protected from political risks. The respondents also

reported that political factors affect the investor's perception of political risk, which is very high. There is a need for the government support which will help the investor's financial position but the real benefits from the government financial commitments will be the political will of the government to the lenders who are insecure about the project political viability beside the financial and technical insecurity. That is why lending to projects in public sector organisations has been difficult due to perception of high risk due political interference. This risk is leading to shorter than ideal lending terms and /or a risk premium (higher interest rates). The higher cost of borrowing due to risk is then passed on in tenders to the project costs.

Culture

Culture has been observed to be an important factor affecting procurement implementation in infrastructure projects in public sector in Pakistan. Almost all the organisations the culture was reported to be bureaucratic, the respondents also reported that their mandate is thorough scrutiny of documentations and process which was why the culture can be deemed to be bureaucratic. The respondents also reported that the general relationship in Pakistan and in public sector between clients and contractors or consultants and among contractors and consultants is adversarial and the competition is on price. Also the respondents reported that the general culture within public sector is lack of trust. Also the general public's perception is of mistrust, the respondents felt that this lack of trust by the people and government not only had a de-motivational effect on the officers handling procurement but made them extra cautious which caused delays and resulted in development of a paranoia and have become over critical and judgmental. Also the respondents stated that there is a culture of non-performance on the contractors' side and of falsifying documentary evidence for getting contracts. It was also reported by the respondents that attitude towards work was very casual and organisational slackness was one of the major causes of delays.

The respondents also stated that the pre-dominant inter organisational culture was that of 'blame game' and people threw responsibilities on each other. In case of non-traditional procurement and especially organisation 2 the respondents reported that this inter-organisational culture was quite

adversarial and the relationship between other public sector stakeholders and private parties was quite hostile in the early years and still to some extent existed. The respondents stated that in Pakistan the culture has not developed as it should have it is a problem on both sides i.e. public and private sectors. They feel that when substantial numbers of projects are done through PPP and the conditions with in Pakistan become better the culture so will hopefully also be more developed.

In case of traditional procurement and organization 1, 3, 4, 5 and 6 the contracts are private sector are viewed as typical "Thaikaydar" which is explained in detail in the previous chapter. It has been observed to be the dominant culture in public sector in Pakistan. The respondents stated that may be one of the reasons why local private sector as well on international level companies are reluctant to come to Pakistan to do business.

Inter and Intra Organisational Issues

Inter and intra oragnsational issues have been reported to be significant factors affecting procurement implementation as evident from Figure 7.5 above and chapter 6 previously. Bureaucratic procedures, maturity and development of the organisations, need for autonomy, need for autonomy, de-centralisation of decision powers and trust are among inter and intra organisational issues reported by the respondents across all the organisations.

Except organisation 2 all organisations reported that bureaucratic procedures have been found to be a major barrier in procurement implementation as a result of it has been reported that no one wants to takes the responsibility of decisions. In case of organisation 2 the respondents reported that when it came to dealing with other public sector stakeholders they felt that it was an important impediment to implementation. All of the respondents felt that internal as well as external bureaucratic procedures delayed the procurement severely. In case of traditional procurement and organisation 1, 3, 4, 5 and 6 it has been reported that due to bureaucratic procedures procurement had been delayed on the average 12-17 months in these organisations.

Maturity and development of the public sector organisations had also been reported by the respondents to be the cause of significant problems in procurement as well as project implementation. Majority of the respondents stated that there was a need to do fast track implementation of projects for which they required the necessary skills and training. The respondents also stated that it's imperative to streamline the procurement and management of projects. They further reiterated that the organisations needed to become more mature and less bureaucratic and politicized. The respondents also stated that the organisations have yet not matured enough to sustain the external and internal forces and one way is to develop its own champions. The respondents felt that the delay in maturity of the organisations was largely due to political instability which has caused many other problems. The respondents also felt a need to have clearer standard operating procedures and a good framework as well as having a very clear policy.

The respondents of 5 out of 6 of the organisations reported that need for autonomy, de-centralisation of decision powers and trust were important factors for procurement implementation. The only organisation not reporting these factors was organisation 2. The respondents felt that the need for autonomy for improving the practise of procurement in their organisations. Unlike orgniasation 2 in the remaining organisations the procurement unit is not independent in making its own decisions and have to go through a lot of bureaucratic procedures and red tapes and this delays the decision making process significantly. The respondents felt that the one way to improve this is by separating the procurement from the organisation itself. Regarding de-centralisation of decision powers the respondents felt that the problem with the management was that they have some policies which are not very clear. The respondents felt that management and decision power vested in few had resulted in selection of wrong contractor for the job. They felt that if the decision making powers are decentralized this would improve the procurement practice and process. In the organisations the officers dealing with procurement are not independent in making their decisions so they have to go through bureaucratic procedures as stated above. The respondents felt that the powers to make decisions are not trickled down due to the fact that the senior management and the Government do not trust

the judgment of the officers handling procurement. The respondents also reported that lack of trust both internal and external to the organisations is another issue hampering procurement and decision making ability. In case of organisation 4 and 5 especially but not limited to these two organisations alone the respondents felt that due to the mechanism of post audit followed by the government and the organizations, the decisions made can come under audit observation after many years of making the decision and the officer is held accountable. The respondents stated that this is why no one was willing to take risks and make timely decision as the fear of post audit the officer making the decisions wants to observe that every aspect of the rules is covered which causes un-necessary delays. The respondents also felt that post audit should be abandoned and pre-audit should be undertaken and it should be a vigorous pre-audit as after many years being held accountable for decisions years ago and proving yourself clear from accusations with old documents and records was very hard. Majority of the respondents felt that risk taking ability and decision powers are quite limited in public sector organisations. Respondents felt that this lack of trust was damaging the motivation and loyalty to the projects and organisations itself and they felt the need to bridge this gap of mistrust for effective implementation and management of projects. The respondents felt that unless this trust deficit is removed they can't achieve anything.

Conditions of the Country (External Environment)

From Figure 7.5 above and chapter 6 it is observed that conditions of the country has a profound effect on procurement implementation in both methods of procurement and across all organisations. In case of the conditions of the country, be it economical, political, law and order or security situation or any other the respondents felt that they are pretty much helpless to do anything. The respondents stated that conditions of the country most notably economic conditions and the prevailing law and order and security situation have direct impact on their organisation as well as procurement and implementation of projects. The financial and economic constraints have resulted in the organisations to consider other innovative methods to increase revenues and finance their projects. The respondents also stated that the financial, economic and security situation in Pakistan

has increased transaction costs and increased the overall cost of doing business in Pakistan.

The precarious security situation of the region and the country has resulted in increase of security risks which is another discouraging factor for investors in infrastructure in Pakistan. It was reported that it not only disturbed the financing but impacted adversely on project development at the same time. As a result of this the respondents stated that the risks were increased which in turn meant more risk coverage for the organizations and dwindling interest in projects. It also made it difficult to get arrangement for financing because of the perception of high risk due to law and order and the prevailing security situation in the country. The present security situation in the country was considered the most important impediment to procurement and project implementation by almost all the respondents and the across all the organisations except in the case of traditional procurement and organisation 4. In case of organisation 4 the as a result of the security situation only local contractors submitted interest for contracts and the local contractors skills and expertise were quite limited but despite this the contractor in case study project F in case of organisation 4 completed the project on time and within budget. In case of organisation 3 the conditions of the country was reported be one of the critical factors for failure to implement non-traditional procurement by the organization.

The respondents reported that at economic level no one was willing to invest in Pakistan's infrastructure as rate of return is very low while inflation was going up and not the rate of return. The foreign exchange rate is also going high day by day and the respondents felt unless the government fixes the exchange rate of dollar for such projects no one would be willing to invest. Another factor affecting projects and financing was the international financial crunch which has resulted in reduced financing in infrastructure projects in Pakistan. The respondents also stated that there are a lot of political risks in Pakistan as the change of governments is quite frequent which has resulted in change of policies. There is very limited predictability for continuance of policy in Pakistan. The respondents also reported that in Pakistan people don't have the confidence to initiate investment in

infrastructure. The respondents suggest that what they need to do is build confidence in the private sector both domestic and international to invest in infrastructure. For effective implementation of different forms of procurement in Pakistan the respondents stated that the current situation of the economy, the instability of the political scenario, the immaturity of organizations and institutions and law and order situation or security situation is not conducive at the moment to implement other forms of procurement. Plus no one has the confidence in the government be it the masses or the private sector both domestic and international. There is weak rule of law and justice. Economic situation, policy, political instability, decision making abilities etc. Plus no one has the confidence in the government be it the masses or the private sector both. Although it may be noted that these factors has had a negative impact on the organisation but on the positive side had pushed the organisation to find other innovative methods of financing and procurement. The respondents also stated that all this has increased the cost of doing business in public sector in Pakistan.

Lack of Understanding of PPP

Although this issue has been reported by respondents of organisation 1 and 6 alone but it has been also observed from respondent responses from organisations 3 and 5. The respondents from organisation 3 have reported lack of success with PPP and one of the factors attributed to it was lack of understanding of PPP. The respondents from organisation 5 are in the process of conducting its first PPP project and were exhibiting the same behaviour. From the responses across respondents from all organisations the respondents have reported that since PPP has not developed yet in Pakistan and not many people are aware of the concept of PPP and how to implement PPP. Many are unaware of what is a concession agreement, what is the role of the agency and the company. Also among PPP the most famous is of course the BOT and that's why people tend to mix PPP with BOT in public sector organisations in Pakistan. PPP is basically an umbrella and under that umbrella there are different options. Also at the moment the organisations have not developed the sense for what PPP is, that's another problem they are facing and as mentioned earlier they have that problem of "Thaikaydar" (contractor) attitude that they deal with or treat private parties. The private sector here in Pakistan is also not very much educated and

experienced to fully understand what is really a PPP. The respondents stated that at this point in time the capacity has not developed within their organisations as well as the private sector to understand what a PPP is, what its complexities are and what are the problems and how to tackle them and how to treat it i.e. how it should be treated by the public sector as well as the private sector.

In case of organisation 2 which has relatively more experience and understanding of PPP, the respondents reported that in the early years of the organisation, doing projects in power sector with private parties had not developed yet in Pakistan and not many people were aware of the concept and how to implement these new procurement routes. Many were unaware of what are the risks, what is the role of the agency and the company, what kind of agreements should be made etc. The respondents reported that mostly there was a trust deficit gap as well as lack of understanding hence the environment became hostile as both parties i.e. public as well as private were inexperienced and did not fully understand the process and risks. But as the organisations both public and private matured by doing more projects both the public sector and private sector also developed more understanding and got more mature and professional in their attitude towards participation in power projects in Pakistan. It was also observed that the respondents from organisation 2 did not perceive these projects as PPP and viewed them as private sector investment. Almost all of the respondents perceived that in case of PPP the government's contribution is concessions and incentives only and the government should not invest in share in capital.

Land Acquisition Issues

A number of respondents from all organisations and in both methods of procurement reported that land acquisition was an issue in procurement implementation. The respondents stated that in projects where land needed to be acquired for the project exhibited land acquisition issues. The respondents reported that land acquisition becomes costly due to political interference (discussed in detail above) and increase the cost of project

many folds ad delays project execution substantially and increasing the risk of project failure.

Project Revenue Issues

In case of non-traditional procurement and organisation 1, 2 and 3 it has been reported that revenue generation from projects faces a number of issues. In case of organisation 1 it was reported that the toll rates, in line with financial model of the project have problems in being implemented due to problems such as law and order situation and interference of local civil administration. Also the respondents reported that the toll revenue cannot even meet the operation and maintenance (O&M) expenses of the projects. Low toll rates, low traffic volume and high rate of interest have complicated finances of the projects. The respondents reported that the low toll rates setting have high levels political interference. In case of organisation 3 the respondents reported that one of the major reasons for the lack of success with non-traditional procurement was political interference in toll rate setting and the toll paying capacity of the users. In case of organisation 2 it has been reported by the respondents that due to low tariff rate suggested by the power purchaser which is also politically motivated and plus the low paying capacity of the users the projects had difficulty in raising and getting the required finances as well as the stringent rules and requirements of international and local financing institutions caused significant problems in project revenues.

Finance Issues

Financial issues not only have a profound effect in procurement selection but also impacted severely in procurement implementation and project execution. A number of the respondents across all organisations and in both methods of procurement reported that one of the biggest barriers in infrastructure procurement is the availability and accessibility of finances. As infrastructure projects are highly capital intensive the main barrier to their effective implementation is the financing arrangements as well as steady infusion of finances. In both methods of procurement significant delays in project execution have been reported due to financial issues. In case of traditional method of procurement and organizations 1, 3, 4, 5 and 6 it has

been reported by a number of respondents that steady infusion of finances from the government is not guaranteed which has caused significant delays in project implementation and have caused a number of projects being terminated. In case of organisation 2 and non-traditional method of procurement it has been reported by the respondents that projects are delayed by at least 6 months due to finance related issues. In case of organization 6 and in non-traditional method of procurement the respondents reported a token amount compared to the total cost of the project was made by the government as soft loan on long term basis and land as Government equity. Almost all the finances was raised from the private sector that is why some of the respondents termed the project on self help basis rather than the PPP as they perceived that the contribution by the government for land acquisition was very nominal.

Lack of Coordination and Cooperation between Stakeholders

The respondents from organisation 5 reported lack of coordination and cooperation between stakeholders as an important issue in non-traditional procurement. But from the respondent interviews across all the organisations and both the methods of procurement it has been observed that there is general lack of cooperation and coordination between different government stakeholders and between federal and provincial governments. This is a cause of many decision problems and projects delays.

7.4 Impact of Procurement on Successful Project Outcomes

All the respondents stated that procurement had a direct impact on successful outcomes of the project. The respondents unanimously stated that the project procurement process and method directly impacted the successful outcomes of the projects in their organisations. The respondents further elaborated this by stating that all these criteria, guidelines and rules are designed to achieve successful project outcome. The respondents felt if the process of procurement is followed in letter and spirit they would not have any problems in effective implementation. The respondents reported that the criteria for pre-qualification and award of contracts are tailored in such a way that they check the financial strength of the firm, its technical capacity, technical capability, experience, the qualifications and experience of its staff and availability of machinery. All these

are built in the process for one reason i.e. to achieve successful project outcomes. The respondents felt that in addition to this the due diligence of the process of procurement also helps them in identifying who is best suited to handle the project. The respondents felt that not just only procurement impacts successful project outcomes but the project planning and the project document i.e. PC-1 if it is properly prepared they stated that its in their experience that such projects usually reaches successful conclusions. The respondents also felt that for successful implementation be it political, organisational and personal loyalty to the project is imperative i.e. how loyal and willing is the organisation as well as the contractors and consultants to the project. The respondents felt that there is much room for improvement in the process and rules for procurement which will lead to successful implementation of projects.

The respondents stated that since procurement is front end of the project and if proper planning is done for procurement then most definitely the project outcome will be successful. They further stated that the procurement systems in their organisation had a direct relationship and impact on performance and success of the project. The respondents reported that to them success is when the project is constructed and completed and to meet the objectives of the project.

7.5 Summary (the bigger picture)

This chapter above along with previous chapters can be summarised in a vivid big picture of a road map as depicted in Figure 7.6 below. As shown in the figure for an infrastructure project the first step is approval and for this it has to go through an approving forum where the initiating organisation submits it for consideration of the government. The ambience at the forum has been reported and also observed to be aggressive where projects and ministeries have to battle for funds as the country is a developing country and have a lot of financial constraints. It has also been reported to be a cumbersome and bureaucratic process and as a result causes delays in approvals. It is at this forum where the fate of the project is decided it is either approved or denied. After a project has been approved by a competent forum it has to go to the initiating organisation where the organisation decides on final procurement choice for the project, albeit the procurement choice is also considered prior to approval but again can be reconsidered at this stage. The

issues as discussed in the chapter regarding procurement selection are depicted in the figure. After manging all the issues in procurement selection and choice the project has to drive along the road to effective implementation. The issues in procurement implementation are depicted in the figure by drawing the path to be perilous having a lot of bends and turns and with are many hurdles and stop signs along the road.

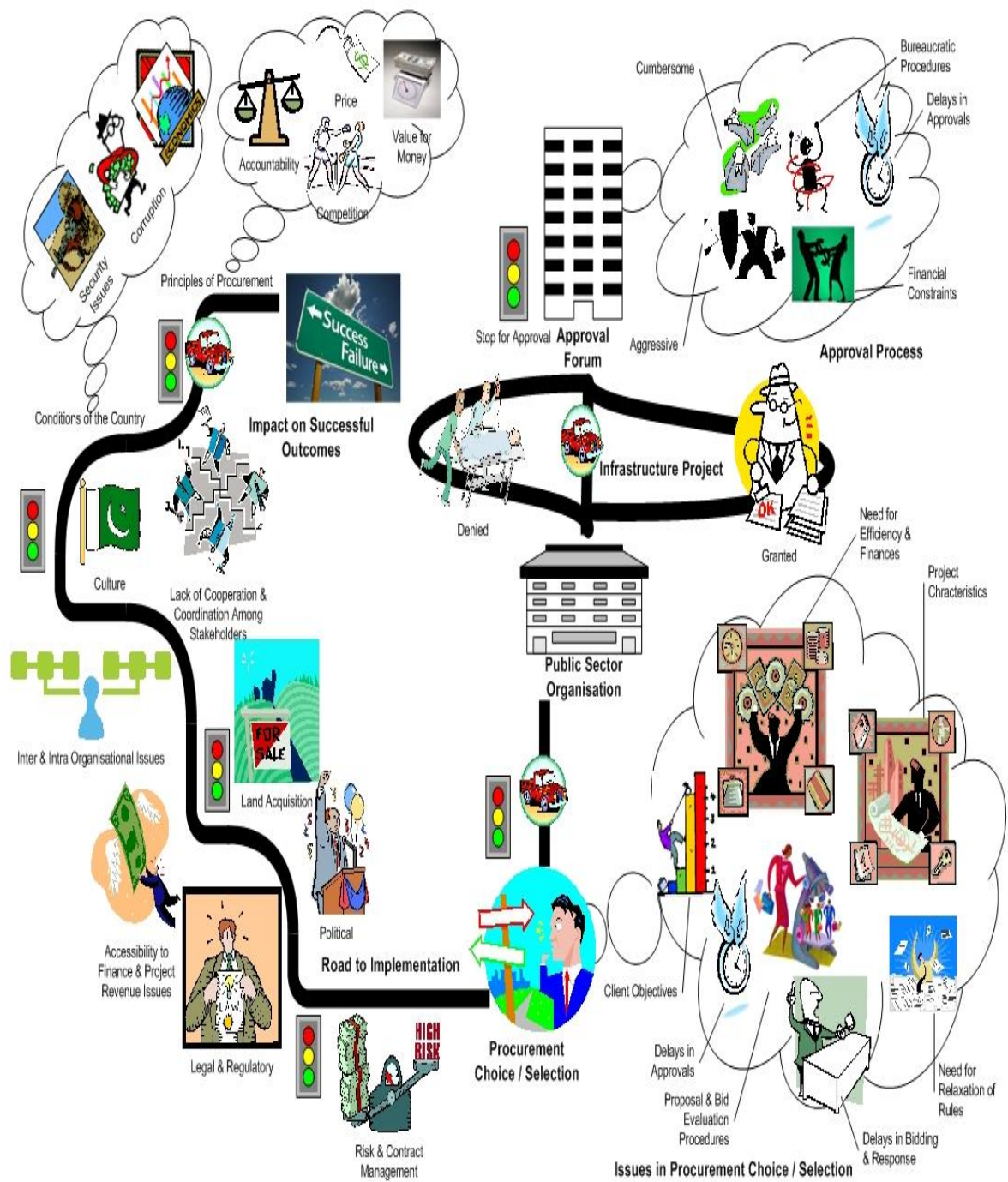


Figure 7. 6: The Bigger Picture

Chapter 8

Discussion, Conclusions and Recommendations

This chapter develops a conclusion to the research and thesis undertaken by commencing with the detailed discussion about the findings of this research from chapter 4, chapter 5, chapter 6 and chapter 7 in order to answer research questions and objectives envisaged at the onset of the research in chapter 1. The chapter also presents and discusses the contribution to knowledge as a product of this research; the recommendations proposed by this research and a discussion on the limitations of this research. The chapter terminates with the recommendations arising from this investigation for further research.

8.1 Discussion of Main Research Findings

The underlying foundation of this research is on the premise that the literature and research on project procurement practices is in abundance with adequate discussion on the effects that procurement may have on successful project outcomes. However, they are all in the context of the developed countries and not in the context of the developing countries like Pakistan.

This research addresses the following cores questions:

1. What are the different types of procurement practices in Pakistan?
2. What are the major issues that affect the procurement selection or choice in Pakistan?
3. What are the barriers to effective implementation of these procurement systems?
4. How procurement practices are perceived to deliver successful project outcomes?
5. What challenges does a developing country like Pakistan face while adopting modern procurement methods and systems? How enabled is the environment to accept new and innovative forms of procurement?

These questions are discussed in detail in the next section.

8.2 What are the different types of procurement practices in Pakistan?

The first research question regarding different types of procurement in Pakistan the following Figure 4.4 reproduced as Figure 8.1 below provides a diagrammatic explanation of the different types of procurement arrangements and methods for infrastructure projects in Pakistan.

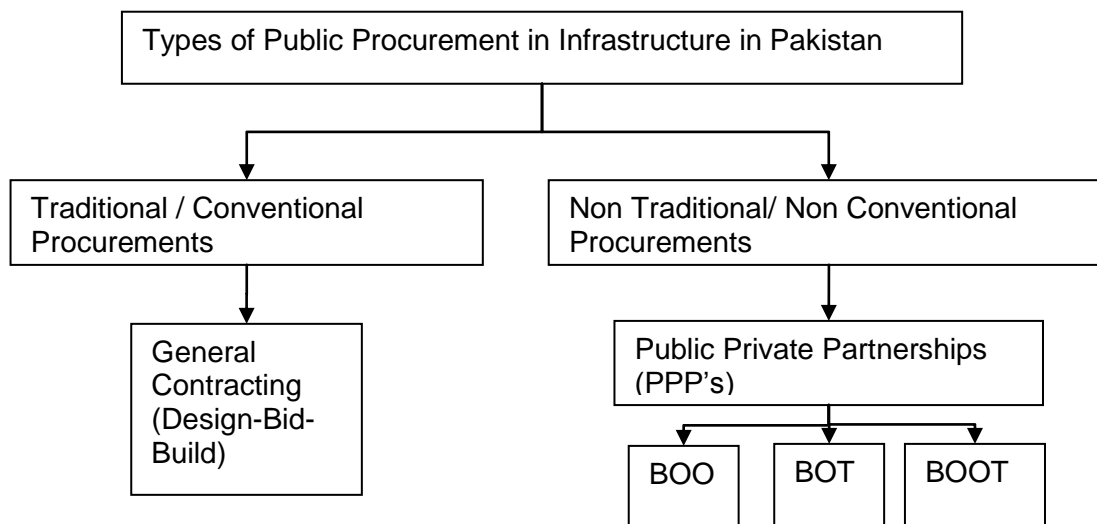


Figure 8. 1: Types of Public Procurement in Infrastructure in Pakistan

The infrastructure procurement in Pakistan can be broadly classified in two distinct methods of procurement i.e. the traditional method and the non-traditional method. Within the traditional method the normal practice in public sector in Pakistan is to use the general contracting i.e. Design-Bid-Build. In case of no-traditional methods of procurement for infrastructure projects in the public sector in Pakistan the three main types of contractual arrangements are BOO which is under policy recommended for procuring thermal power projects in addition to it being used by the first private sector airport in Pakistan. BOT is most widely used for infrastructure projects across the public sector in Pakistan especially in case of transport sub-sector as almost all the case study projects in this sector have been procured through this arrangement. The researcher was able to identify only one BOOT project that too in hydropower sector in Pakistan and it is the only BOOT project so far in infrastructure projects in public sector in Pakistan so far.

The advantages of the traditional method in Pakistan have been observed to be the relative comfort with the approach and ease of use for the public sector organisations, with relative price certainty and targeting at least cost, having fair amount of competition and to a degree transparent which are mandatory for public procurement

under the government regulations. The disadvantages have been reported to be cumbersome, time consuming, often resulting in delays in project execution and resulted in adversarial relationship often ending in legal disputes. Both advantages and disadvantages broadly conform to the literature on traditional method of procurement such as Walker and Hampson 2003; Murray and Langford 2009; Morledge et al 2006; Francis and Sidwell 1996; McGeorge and Palmer 1997 and Hughes et al 2006, explained in detail in chapter 2. This can also be depicted in the force field analysis diagram such as in Figure 8.2 below. Considering the advantages being the forces driving the traditional method and the disadvantages being the restraining forces, also evident from section 7.1 and Figure 7.1 that the traditional method of procurement is the predominant method and is in high use hence it can be inferred that the driving forces are stronger than the restraining forces.

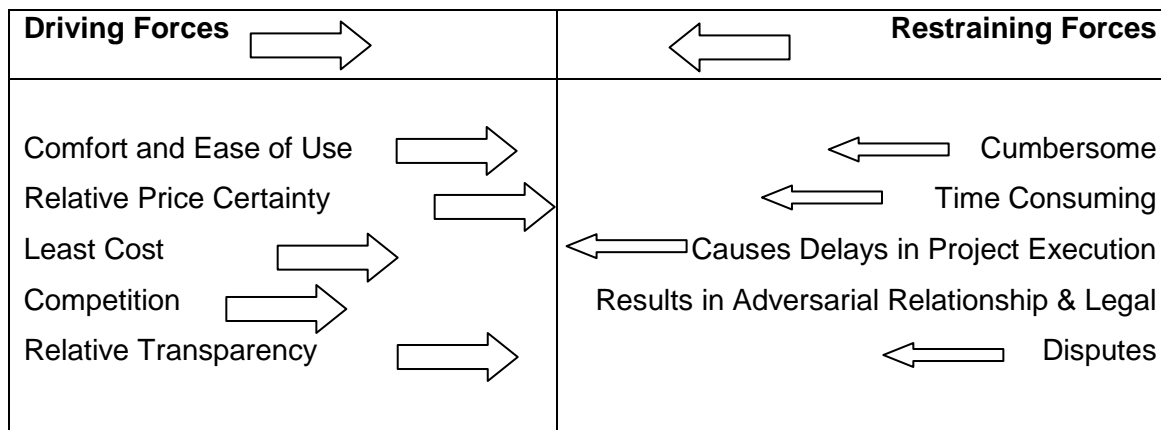


Figure 8. 2: Force Field Analysis of Traditional Method in Pakistan

Broadly the driving forces and advantages of the non-traditional method of procurement and especially Public Private Partnerships in Pakistan have been observed to be need for efficiency and finances. The restraining forces and disadvantages to this particular method have been observed to be lack of understanding of the method of procurement, the project revenue issues, the long gestation period of PPP projects, resistance to change and the suitability to the present environment of the country. These factors/forces broadly conforms to the literature as discussed in literature review chapter in detail by authors such as Hughes et al 2006; Walker and Hampson 2003; Walker and Smith 1995; Chu 1999; Merna and Smith 1996; Wilde Sapte, 1997; Murray and Langford 2009; Morledge et al 2006; Miller et al 2009 and Hughes 1989 just to name a few. Regarding the issue of lack of

understanding as explained in detail in chapter 2 authors such as Miller et al 2009; Naoum, 1994; Luu *et al.* 2005; Nahapiet and Nahapiet, 1985; Shields 2005; Nam and Tatum 1997; Slaughter 1998 stress on the need and the importance of understanding of procurement as well as the increase in the level of understanding with experience and expertise. This lack of understanding as observed was not specific to clients alone but also contractors, consultants and private parties have exhibited the same in case of Pakistan as stated by Naoum 1994; Luu *et al.* 2005. It is also interesting that resistance to implement change (Shields, 2005) have also been observed in case of Pakistan as discussed in various sections in chapter 6. Suitability to the specific environment and the influences of environmental factors such as regulatory, legal, political, economic, cultural, financial etc in which it is being administered conforms to the literature presented and explained in detail in literature review chapter. Although the literature does not particularly elaborated these in the context of developing countries but the findings do confirm that these issues are having a profound negative impact on the applicability of this type of procurement in Pakistan. Considering the above the same can be depicted using a basic force field analysis as done in Figure 8.3 below. By also considering section 7.1 in which non-traditional method of procurement is seen as a sparingly used method. Hence it can be inferred that the restraining forces are stronger than the driving forces in the case of non-traditional method in Pakistan.

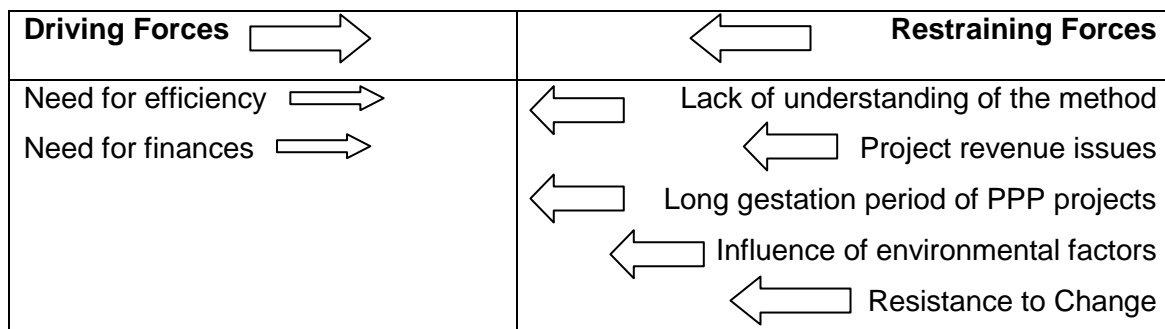


Figure 8. 3: Force Field Analysis of Non-Traditional Method in Pakistan

8.3 What are the major issues that affect the procurement selection or choice in Pakistan?

Within the construction industry, procurement has become a complex and difficult topic (Hughes et al, 2006). Bowen et al (1999) states that the procurement process

associated with construction projects are difficult from a management point of view. They further suggest the reasons for it to be the fragmented nature of the industry, the separation of design and construction, the uniqueness of construction projects and the temporary nature of project organisations. These factors increase the importance for the project team in effectively setting up the procurement process and bringing the project to a successful completion (Bowen et al, 1999). Tookey et al (2001) states that there are a number of different types of procurement routes available to choose from, each different type of procurement has its own strengths and weaknesses, the question is which is the best choice? They further state that selection of optimal procurement systems is difficult, because even experienced clients do not know all the potential advantages and risks for each system. Walker and Rowlinson (2008) suggest that the project procurement choice is guided by the type of projects. The result of employing an imprudently selected procurement method can be an impediment and might eventually lead to project failure (Naoum, 1994; Sharif and Morledge, 1994; Rwelamila and Meyer, 1999; Ambrose and Tucker, 1999; Luu et al 2003). Inappropriate procurement strategies may lead to cost and time overruns; claims and disputes on projects (Masterman, 1992; Abdel-Meguid and Davidson, 1996). Conversely, appropriate procurement strategies are needed to help achieve optimal solutions in terms of cost, time and quality. They can also contribute positively to other aspects of performance, such as meeting agreed targets, as outlined by Jagger (1995).

From section 7.2 there appears to be quite a few issues affecting the choice of procurement such as need for efficiency and finances, client objectives, timely policy decisions, clarity of client's needs, delays in bidding and response, delays in approvals, proposal and bid evaluation procedures, need for relaxation of rules and project characteristics. Of all these issues the most significant ones to affect the choice of procurement of infrastructure project have been found to be project characteristics, client objectives, need for efficiency in other words performance requirements and need for finances. Project characteristics especially technical complexity and cost of project have been found to be deciding factors in case of infrastructure projects by public agencies in Pakistan. According to Luu et al (2003) and Moreledge et al (2006) project characteristics are important factors effecting procurement, Morledge et al (2006) suggests that the size, complexity and the location of the project should be carefully considered. Infrastructure projects in public sector in Pakistan are mostly large and complex projects and as Moreledge et al (2006) suggest they can have a bigger

risk of cost or time overruns. Nahapiet and Nahapiet (1985) found that it was useful to characterize projects in terms of their relative complexity, believing that this was likely to be at least one important determinant of the need for flexibility. Many researchers argue that “project size”, “project type” could in turn affect the ultimate performance of a project, and which reflect the project’s physical characteristics should therefore be carefully selected and used (Skitmore and Marsden, 1988; Turner, 1990; Love *et al.*, 1998; Luu *et al.*, 2003). The findings conforms to the observations of the authors noted above and it seems that the public agencies involved in infrastructure projects in Pakistan are quite aware of the effects of project characteristics can have on procurement of projects and its subsequent execution.

Understanding a client's implicit and explicit objectives for construction is a complex issue (Tookey *et al.*, 2001). They further suggest that client role has been the source of much research over the years. Fundamentally, client objectives focus on three factors i.e. quality, cost and time (Walker, 1996). Tookey *et al.* (2001) summarises core client objectives as highest realistic quality with lowest realistic cost done in minimum realistic time and having minimum conflict during the process. Client’s objectives have also been found to be an important factor in procurement selection in Pakistan including the clarity of clients needs. The public sector in Pakistan clients have been reported to be unclear in there objectives and needs especially when it came to projects being procured by non-traditional methods. This may be due to the lack of understanding of the non-traditional method of procurement and the lack of faith in the potential of their PPP projects itself. The ambiguity in clients’ objectives and needs may also be attributed to the reasons for delays in making decisions and back tracking on decisions when projects had advanced to a considerable degree, causing increase in project cost and cost of construction as well as developing adversarial relationships between contractors and clients leading to arbitration and legal disputes. Projects have been reported to suffer as a result often resulting in infinite delays and with a high risk of project termination. The ambiguity in clarity of clients’ needs and wants can also be attributed to the level of advice the public sector client gets. Since the project approval has to go through a number of inter organisational forums and the advice and decisions rendered at the forums have been observed to cloud the client’s objectives. Not limited to the public sector forums alone the quality of advice the client gets from consultant organisations can be another reason for ambiguity in needs and objectives. As Tookey *et al* (2001) suggests that “complexity is added to the procurement equation by

including non-linear variables such as the nature and quality of advice the client is given". Policy and policy level decisions also seem to have a strong connection and impact on the client objectives and needs, and the frequent shift in governments results in abrupt shifts in policy and policy decisions which are observed to be a common phenomenon in Pakistan. Hence it can be inferred that policy issues have a direct relationship with client objectives and needs in case of public sector clients in Pakistan. It can be stated that more stable and clear the policy, there will be more clarity in the public sector clients' objectives and needs. The implications of policy is discussed in detail below as it not only affects the clients objectives it has much far ranging implications on other issues affecting procurement choice.

After project characteristics and clients objectives, need for efficiency and finances have been reported as important issues in procurement choice of infrastructure projects in public sector in Pakistan. It was felt that the need for efficiency and finances are the main issues for choosing a certain procurement method in public sector organisations. There is paucity of funds in public sector for infrastructure projects while there is huge demand for efficiency (performance requirement of time, cost and quality) and infrastructure. The country is going through fiscal constraints and natural disasters which has pushed the national exchequer to the brink of collapse as a result of this the organisations are suffering severely of financial constraints and had to abandon a lot of projects and cut down on expenses so as to keep the organisations operational. In there quest for finances and efficiency a substantial number of public agencies have attempted to adopt other methods of procurement including the non-traditional methods such as PPP. They have also found other means to finance projects ranging from lender financing to supplier credit. A few of the organisations have had limited success with the non-traditional forms of procurement and finances and while some have had almost zero success with adopting non-traditional method of procurement. There is dire need for financing and efficiency of infrastructure projects and this has resulted in pushing and driving the public sector agencies in finding innovative methods of procurement. So far the organisations have been found to be struggling with finding the right innovation for their organisations in particular and public sector in general. This can be attributed to a number of factors internal and external to the construction sector, infrastructure sector and public sector in Pakistan and seems to be stemming innovation in procurement both in process and product innovation. As Miller et al (2009); Shield (2005); Gann and Salter (2000) suggest that innovation in construction

involves a complex interaction between macro, intermediate and micro level factors and this complex interplay between various components of the construction industry has been argued to result in reduction in innovation. Steps are needed to accelerate and strengthen both the product and process innovation in infrastructure procurement in public sector in Pakistan.

The issues of delays in approvals, proposal and bid evaluation procedures, need for relaxation of rules and timely policy decisions all have flavour of being policy and governance related. The root cause of delays in approvals has been largely attributed to government policy and bureaucratic procedural processes of the government. These delays also have both inter and intra organisational dimensions. As per Government policy the project approval systems in Pakistan is over centralised and is on a case to case and project to project basis as discussed in chapter 4 in detail. According to an Asian Development Bank (ADB) study conducted in 2007 in Pakistan also found that the problem with over centralised governance is that it causes disempowerment of public sector institutions tasked under law or policy to implement infrastructure projects that in turn results in prolonged delays in project 'approvals' and allows for non-economic considerations in the prioritization. Efficient infrastructure procurement in public sector in Pakistan depended on the timely policy and senior government level decisions. If the decisions did not come timely it affected the project procurement and subsequently project implementation adversely. The proposal and bid evaluation procedures have been found to be bureaucratic and cumbersome and causing in delays in selection of consultants, contractors and private parties. The process has been found to cause of delays of up to 15 months or more. Rules, regulations and procedures are perceived as impediment in procurement of infrastructure projects in public sector in Pakistan and respondents feel the need for relaxation of these rules for effective procurement selection and implementation of infrastructure projects.

The delays in bidding and response as well as the delays in attracting interest was mostly attributed to the conditions of the country which included security situation, political, environmental, policy, economic among other aspects. It was also observed the effect of these also depended on the setting in which the project is offered that is in case of International Competitive Bidding (ICB) setting the above issues were of much more significance to international bidders than in case of National Competitive Bidding (NCB) setting. Also it was reported that one big project could not attract interest in ICB

environment and when they were broken down to smaller projects and the bidding environment was changed to NCB, they got better responses. It was observed that all that delays in bidding and response as well as attracting interest from prospective parties affected the project procurement and implementation and often resulting in delays of more than a 12 months and resulted in higher cost of construction with increased cost of the project.

8.4 What are the barriers to effective implementation of these procurement systems?

The procurement being an open system which receives information from its environment then transforms and returns it as an output to the environment (Mcdermott and Rowlinson, 1999). Authors such as Luu et al. (2003); Walker (1989) and Hughes (1989) identified a series of influences pertinent to construction project and these include political, financial, economical, sociological, legal, institutional, competitive, cultural, technological, environmental, physical aspects that may affect procurement. Analysing the respondent responses in chapter 6 and chapter 7 suggest that there are quite a few barriers to implementation of infrastructure procurement systems in public sector in Pakistan such as regulatory and legal, risks and contract management, principles of procurement, political, culture, inter and intra organisational issues, conditions of the country, lack of understanding of PPP, land acquisition issues, project revenue issues and finance issues.

Hughes (1989) state that legislation not only affects the client's activities directly but it also influences the contractual relationships within a project. Ratnasabapathy et al (2000) found that 5 major factor categories influenced the procurement in construction. These five factor categories include "Market condition" (Factor 1); "Economic condition and the fiscal policy" (Factor 2); "Technology" (Factor 3); "Socio cultural suitability" (Factor 4) and "Regulatory environment" (Factor 5). From chapter 7 and from the independent case analysis in chapter 6 it is quite clear that regulatory and legal issues have a profound affect on the procurement implementation of infrastructure projects in Pakistan. In Pakistan there are a significant number of laws that deals with the development and regulation of infrastructure projects (ADB, 2007). The rules and regulations and the legal requirements have a lot of lacunae and have been the source of varied interpretations and were quite contradictory to each other. As result of which it

was felt that no one was willing to take the risk to make decisions. Due to a plethora of legal formalities and requirements a lot of loop holes in the system have been noted and these loop holes have regularly being exploited by the parties involved. Exploitation of the system's weakness has become common practise and is creating problems in project execution and implementation. These practises are not only motivated for personal gains but political backing is also a source of the problem. It has been felt that there is corruption and presence of practices which can be deemed to be corrupt practices with in public sector and construction industry in Pakistan. One reason that nothing can be done about it is the presence of a weak legal and regulatory framework and systems. In the absence of strong regulatory and legal enforcement and the high levels of corruption prevailing in the country the construction industry and the public sector agencies are unable to effectively implement projects. For effective implementation a much clearer framework was required as these rules and procedures where seen as protracted and onerous. As suggested by ADB (2007) in Pakistan there is a need for a law that provides a uniform framework for procurement in infrastructure consisting of common standards and operating procedures for project identification, financing, procurement, operations and incidental matters. It was felt that rules and regulations are source of time delays but at the same time they have no other choice but to follow these rules. It was also felt that there was a need for flexibility of rules so as to avoid issues in project implementation and execution. There are two interesting facts noted here that firstly the rules and regulations at one time were reported by the respondents to be an impediment and at the same time were stated to be needed for effective implementation. Secondly the general trend in project procurement and implementation is either following the rules too strictly or not abiding by the rules. Procurement rules assist in the creation of competition markets and benchmarks and reform efforts in this area improves quality and lead to greater competitiveness among suppliers (Raymond, 2008). Also it is observed that infrastructure procurement in Pakistan is suffering severely from lack of innovation, legal requirements and government regulations are seen as an impediment to innovation. In public sector in Pakistan innovation is needed to improve the regulatory and legal frameworks in place for infrastructure procurement, the approach suggested by Gann Wang and Hawkins (1998) seems quite logical that is transforming the regulatory and legal frameworks and using them for improving performance and inducing innovation.

Professional institutions have an influence over the conduct of the professionals in construction and it affects conditions of engagement (Hughes, 1989). In case of public sector in Pakistan, statutory body for the profession of engineering in Pakistan i.e. the Pakistan Engineering Council (PEC) has a profound impact on the procurement, especially the contract and risk management aspects of procurement. All the public sector agencies studied followed the guidelines and sample contract documentations prepared by the PEC in case of traditional procurement projects. The guidelines and contract templates itself have origins from the FIDIC (an international consulting organisation) contracts as explained in section 7.3 in detail, the contract documentation in use in these organisations is more pro client. The organisations involved in PPP and non-traditional procurement projects also had standard concession agreements in which they do minor variations from case to case and project to project basis. As Ogunlana and Sysavath (2000) state that many standard contract conditions are 'imported' and they originate from variety of sources, having been designed for different social, cultural, political, legal and economic backgrounds. In using 'imported' conditions of contract, therefore, several parts of the jigsaw are clearly missing and the end result is less than optimal achievement (Tutesigensi and Moodley, 1999) which also seems to be partly the case in infrastructure projects in Pakistan.

According to Edwards and Bowen (1999) "risk management is a systematic approach to dealing with risk. A risk management system should: establish an appropriate context; set goals and objectives; identify and analyse risks; influence risk decision making; and monitor and review risk responses". Miller et al. (2009) states that risk management aims to identify, prevent, contain and mitigate risks in the interests of the project and risk management is an ongoing process which continues throughout the life of a project. They further state that this process continues during the life of the contract. They also states that in actual practice this does not happens in isolation and risk. But in case of Pakistan and the public sector organisations under study the organizations are mandated to follow PPRA rules but in these rules the risk management framework is not clearly provided. The organisations manage risk through contracts as also suggested by Moreledge (2006) and also took securities, bonds and guarantees from the parties involved. Although the respondents were aware of the risks but they also reported that the organisations did not have a proper and systematic risk management framework or approach where they assign values to risk, maintain a risk profile and risk register etc. Such formal procedures for risk management are almost non-existent in

the public sector in Pakistan. The main reported reason was that the Government of Pakistan is quite risk averse and most of the risks are transferred to and the contractors or private parties are decreed to take on the risks. It looks as if that risk allocation in infrastructure projects studies in Pakistan is done in isolation and not as suggested by Miller et al (2009) above which may need further investigation to confirm.

The above conforms to Morledge et al. (2006) which provides the traditional method for allocating risks in the construction industry and is reproduced as follows:

- From client to designer and contractor(s)
- From either client, designer or contractor (main or sub) to insurer
- From client, funder, developer, purchaser or tenant to professionals (architect, engineer) or contractor by collateral warranty
- From main contractor to sub contractor
- From contractor (main or sub) to guarantors or sureties

They further stated that this process historically has been driven from top downwards where clients have unilaterally assigned their risks to designer and contractor regardless of who is best able to control them. This process as stated by Moreldge (2006) is known as 'risk dumping' and is widely considered to be counterproductive. As indicated by Morledge et al. (2006) risk should be equated to the expertise, role and reward of the party to whom it is assigned and most importantly the willingness of the respective parties to take on the risks. Similarly it was observed during this research that the majority of the risks are borne by the contractors and consultants and only a few risks are taken on by the organisations and the Government such as natural disaster etc. Even in non-traditional procurement it was also reported that the organisations tried to transfer as much as risk to the private parties as possible and there is a practice and a continuous battle of trying to transfer as much risks to the other party on a risk by risk basis. Which is contrary to what Miller et al (2009) states risk allocation cannot be done on a 'risk by risk' basis and be detached from the output specifications, payment structure, government policies and the contract itself. Interestingly it was observed that the respondents felt a need for a balanced approach of transferring or dumping of risks. They realized that unduly risk dumping was not good for both the parties and results in failure for both the parties and is a loose-loose situation for everyone. However it was also observed that there is not a standard

criteria for risks being taken by the government for instance in case of power sector the organization responsible is much more flexible in taking on the risks for instance political risks are taken on by the organisation while the same is not the case for the remaining public sector organizations and infrastructure sub-sectors. Also certain incentives which are made available by the government for non-traditional procurement in power sector such as tax incentives etc are not available for other infrastructure sub-sectors in public sector in Pakistan. The degree of awareness to risks and risk management in non-traditional procurement projects was higher than traditionally procured projects seems because most of the projects in case of non-traditional procurement are internationally financed projects and banks and other financial institutions safeguarded each and every aspect of the risks. However again in case of non-traditional procurement it has been observed that there is neither a standard framework for risk management nor a standard policy for risk management as well as standard policy incentives and guidelines across sub-sectors of infrastructure.

Principles of procurement as defined by Raymond (2008) i.e. transparency, accountability, competition, value for money and ethics have been reported to be important factors by the respondents across all organisations and both methods of procurement in public sector in Pakistan. The focus of the government rules and regulations especially PPRA is on transparency and competition only.

Raymond (2008) stated that in public procurement competitive tendering is the means by which most goods and services are procured. He further states that competitive tendering involves processing of bids and a technical evaluation committee evaluates whether bids are in accordance with requirements as stipulated in tender conditions. He suggest in this process competition occurs as the credibility of the bidder in carrying out previous contracts of similar nature, the price are compared across the bidders and the most competitive bidder is awarded the tender. The same is the case as observed in organisations studied in this research in Pakistan. Erridge et al (1999) referring to the quality of the tender document and advertisement states that provision of inaccurate data and information often result in misunderstandings and increased costs the better the quality of information provided the less likely that it results in an unsatisfactory purchase. The aspect observed during this study was on the opposite side of the same coin i.e. it was reported that contractors or bidders usually submitted false information in order to get the award of contract and during the course of implementation the

contractors were not able to deliver and resulted in increase of the price and the cost of the project. This means that the quality and accuracy of information is important for successful deliver of infrastructure projects on both sides that is the client as well as the contractor Raymond (2008) and Erridge et al (1999) believe that competitive tendering avoids accusations of favouritism and fraud and that the openness of the system encourage more suppliers to participate and that increased competition help reduce prices, improve quality and lead to greater competitiveness among bidders. The statement above does not in totality confirms to the findings of this study, as it has been reported by respondents that favouritism, nepotism and fraudulent practices does exists, competition has been found to reduce prices but in reality just for the award of contract in actual implementation the prices have been found to have increased during execution. Over competitiveness had resulted in development of adversarial relationship between clients and contractors and among contractors as well which seems to be universal across the construction industry throughout the world.

The function of transparency is also important in procurement and it refers to openness (Raymond, 2008). Transparency therefore is an essential aspect of ensuring accountability and minimizing corruption, and is particularly associated with the rise of the governance agenda as transparency is a core governance value (Smith-Deighton, 2004). Transparency in construction procurement both public and private sector provides an assurance for both domestic and foreign investors that contracts will be awarded in a fair and equitable manner (Raymond, 2008). These rules also ensure that goods and services are obtained at the most economic prices and thus lead to a reduction in costs (Raymond, 2008). According to Rege (2001) the most important benefit of transparent and open procedures is the impact which their adoption may have on the level of corruption in countries where it is widespread. Therefore, transparency promotes trust by allowing stakeholders to see and judge the quality of government actions and decisions (Smith-Deighton, 2004). . It was also reported that since the promulgation of the PPRA the process of procurement has become more cumbersome and time consuming but it has increased transparency and accountability of public procurement. The respondents stated that in the past there had been numerous instances of unethical behavior and lack of transparency and accountability in the public sector procurement domain such as incidents of advertisements in dummy newspapers, falsified documentary evidence for claims of work and experience, backdoor entry of contractors etc. It was felt that the unethical behaviour and practices

had been on both sides i.e. the public and the contractor or consultants. It was also found that there is distinct lack of trust by the general people and the government regarding procurement of works and services by public sector employees. An interesting fact here to be noted is that the rules and regulations are perceived to be cumbersome and causing delays but essential for transparency and accountability and at the same time respondents felt that the stringent rules show the lack of trust by the Government on its employees. Transparency International (TI) an independent organisation based in Germany is investigating corruption in business (Raymond, 2008). Transparency International has developed a ranking system for the construction industry, and countries such as China, India, Pakistan and Russia appear to be corrupt nations (Tandoor and Koehn, 2004).

Value for money (VFM) is the most important principle of procurement (Raymond, 2008). VFM in the public sector entails consideration of the contribution to be made to advancing government policies and priorities while achieving the best return and performance for the money being spent (Bauld and McGuinness, 2006). Value for money is not taken to be least cost (Pitt et al. 2006). Although the rules stress for value for money but value for money has not been clearly defined in these rules. In the public sector in Pakistan it is perceived that following a competitive process and getting the least cost was value for money, the lower the cost of the bid the better the value for money it is considered which is contrary to Pitt et al (2006) statement above. There are barriers to the concept of VFM in public sector organisations studied in Pakistan and as Palmer and Butt (1985) state that the barriers which need to be overcome in order to achieve VFM are weak governing bodies, politics, tradition, and lack of education and training programmes.

Another interesting observation was made that among all the projects procured through the traditional method it was reported that the traditional competitive tendering method was followed as mandatory by government policy and regulations. But among all the projects procured by the public sector in case of non-traditional method studied in this research, an interesting observation has been made regarding these projects as within project procurement all of the contracts have been awarded using Engineering-Procurement-Construct (EPC) contracts and following the tradition competitive tendering method. Unlike the public sector it is not mandatory for the private sector to use competitive tendering. Hence it can reasonably be inferred that in case of

infrastructure project be it public sector or private the concept of partnering and alliances or principles of supply chain management are not adhered to or not fully understood or do not exist. It can also be reasonably inferred that the value for money concept in case of public sector which is perceived to be least cost is also the same in case of private sector as the emphasis is on competition and least price.

Murray (2007) states that public procurement whether at national, supra-national and international levels resides within legislative, administrative and judicial frameworks and much of those frameworks have been set by politicians and hence the influence of politicians on public procurement policy is pervasive. Furthermore, strategic public procurement cannot be considered strategic if it leaves out the role of politicians (Murray, 2007). From the data collected through this research it is quite evident that political factors had a major influence in infrastructure procurement in public sector in Pakistan. Most of the respondents stated that political factors were the most severe to influence infrastructure procurement. The unstable political environment of the country, instability in policies, use of political pressure and influence had adversely affected infrastructure project procurement and implementation in all the organisations studied. It was felt that political interference was an impediment to the procurement and successful implementation of projects. Due to political interference unqualified contractors and consultants were selected who could not implement the project effectively. It has also been noted that politically well-connected individuals and corporations would get projects awarded on a less than full competitive basis. This closely conforms to the findings of Raymond (2008) in case of Sri Lanka another developing country in South Asia. Weingast et al. (1981) states that political institutions fundamentally alter the perceptions and incidence of benefits and costs, they systematically bias project choices away from the efficient outcomes.

Political interference has caused a lot of problems in land acquisition for projects as politicians lobbied to increase the price of land to abnormal prices for personal and political gains and mileage which had caused huge financial loss to the public sector organizations on many occasions. Among other negative impacts it has not let the public sectors organisations to become mature. Coverage for political risks is non-existent in case of traditional method of procurement. In case of non-traditional method of procurement apart from one organisation which have to some extent covered political risks all the organisations engaging in PPP projects reported that the

framework for PPP transactions at both federal and provincial levels and exposure to political and regulatory risk over a long PPP period is still remaining constraints in these organisations. This was observed to be due to the lack of a cohesive government policy and strategy toward PPP projects as a result of which such projects could not be protected from political risks. The political factors also affected the investor's perception of political risk, which was very high. There is a need for the government support which will help the investor's financial position but the real benefits from the government financial commitments will be the political will of the government to the lenders who are insecure about the project political viability beside the financial and technical insecurity. That is why lending to projects in public sector organisations has been difficult due to perception of high risk due to political interference. This risk is leading to shorter than ideal lending terms and /or a risk premium (higher interest rates). The higher cost of borrowing due to risk is then passed on in tenders to the project costs.

Political will, had an interesting impact of project execution as its was observed if there was no political will or political backing behind the project then that project could not go further and could not progress. It seems that political will is quite necessary for projects in public sector organisations in Pakistan to succeed. Political support of from both the provincial and federal governments has become a requirement for organisations to successfully carry out intra-provincial as well as other projects. In one case of traditional procurement it was reported that due to the geographic nature of the area they operate it and because of the governance structure i.e. Governor Rule and tribal customs and traditions they stated that they did not face any political pressures during procurement and there was no political interference in the implementation mechanisms of the organisation. But the respondents felt that if organisational and political will as well as the will of the project stakeholders is there then projects do get completed on time and within budget. The impacts of political factors warrants further investigation as Murray (2007) stated that the role of politicians is not fully understood and sometimes presented in a negative light.

According to Ofori (2000) the construction industry is different in every country and this due to the uniqueness of culture of particular groups of people, and its pervasive influence in societies and organisations. He further stated that it is necessary to devise practices, procedures and relationships which are suited to the culture of each country and adopting universal solutions would not seem to be practical. Regarding

culture and procurement Ofori (2000) states that there is a need to formulate procurement approaches which enable and facilitate the integration of the construction process in the context of the country concerned. In this research it has been observed that culture is an important factor affecting procurement implementation in infrastructure projects in public sector in Pakistan. The culture across all public sector organisations studied was found to be quite bureaucratic. Ofori (2000) suggest that the “traditional” procurement which is the predominant in the Commonwealth countries and in which the stress is on formality and following a set of channels of communications. The general relationship reported between clients and contractors or consultants; and among contractors and consultants was adversarial and competitive the competition being on price. It was also reported that the general culture within public sector is lack of trust and the general public’s perception is of mistrust. It was felt that this lack of trust by the people and government not only had a de-motivational effect on the officers handling procurement but made them extra cautious which caused delays and resulted in development of a paranoia and have become over critical and judgmental. Latham (1994) advocated the spirit of partnering and development of trust and removal of barriers such as mistrust, rivalries and adversarial relationships. Such an approach is required to be established in the context of Pakistan, as construction industries across the globe have moved on from adversarial rivalries and mistrust to partnering, alliances and supply chain management. While these types of approaches were not observed in any of the case studies investigated during this research. It was also observed in the public sector organisations studied that both at the organisational and national level there is a culture of non-performance on the contractors’ side and of falsifying documentary evidence for getting contracts. Attitude towards work was reported to be very casual, both organisational and individual slackness and shirking was reported to be one of the major causes of delays. On inter organisational level culture was that of ‘blame game’ and people threw and brushed responsibilities on each other. It was felt that in Pakistan the culture has not developed as it should have and it is seen as a problem on both sides i.e. public and private sectors. In public sector in Pakistan contractors and private parties are viewed as "Thaikaydar" translated as contractors and which is explained in detail in chapter 6 previously. It has been observed to be the dominant culture in public sector in Pakistan and may be one of the many reasons why local private sector and international companies are reluctant to engage in public sector contracts in Pakistan. Thus, as Ofori (2000) suggests that effort should be made to

formulate procurement approaches which enable and facilitate the integration of the construction process in the context of the country concerned.

Boyne (2002) stated that in public sector the boundaries between the organisations and the external environment are more permeable and there are more rules and constraints. From the investigation under taken by this research it has been found that inter and intra organisational issues are significant factors affecting procurement implementation as evident from chapter 6 and 7 previously. Furthermore bureaucratic procedures, maturity and development of the organisations, need for autonomy, need for autonomy, de-centralisation of decision powers and trust are among inter and intra organisational issues reported.

Internal as well as external bureaucratic procedures delayed the procurement severely. It has been reported that due to bureaucratic procedures procurement had been delayed on the average 12-17 months in these organisations. Bureaucratic procedures were found to be a major barrier in procurement implementation as a result of it has been reported that no one wants to take the responsibility of decisions. But more bureaucracy; more red tape; and lower managerial authority have been stated to be internal characteristics by Boyne (2002) in case of public agencies. It was reported that need for autonomy, de-centralisation of decision powers and trust were important factors for procurement implementation. It was felt that the need for autonomy was necessary for improving the practice of procurement in the organisations. As most of the procurement units are not independent in making its own decisions and have to go through a lot of bureaucratic procedures and red tapes and this delays the decision making process significantly. Regarding de-centralisation of decision powers the respondents felt that the problem with the management was that the policies were not clear and felt that decision making powers vested in few at top level had resulted in selection of wrong contractors for the jobs. It was perceived if the decision making powers are decentralized this would improve the procurement practice and process. The powers to make decisions are not trickled down due to the fact that the senior management and the Government do not trust the judgment of the officers handling procurement. The lack of trust both internal and external to the organisations is a major issue hampering procurement and decision making ability. And due to the mechanism of post audit followed by the government and the organisations, the decisions made can come under audit observation after many years and the officer is held accountable.

It is another reason why no one was willing to take risks and make timely decision as the fear of post audit the officers making the decisions wants to observe every aspect of the rules is covered which causes delays. The risk taking ability and decision powers are quite limited in public sector organisations and the lack of trust was damaging the motivation and loyalty to the organisations and projects itself. There is a need to bridge this gap of mistrust for effective implementation and management of projects. Unless this trust deficit is removed the effective implementation of infrastructure projects in public sector in Pakistan is constrained severely. Maturity and development of the public sector organisations had also been reported to be the cause of significant problems in procurement and project implementation. There was a need to do fast track implementation of projects for which the organisations required along with the necessary skills and training. It was felt to be imperative to streamline the procurement and management of projects and the organisations needed to become more mature and less bureaucratic and politicized. It was reported that the organisations have yet not matured enough to sustain the external and internal forces and one way is to develop its own champions. The barrier to maturity of the organisations was largely due to political instability and interference which has caused many other problems discussed above. It was also observed to be that the organisations needed to have clearer standard operating procedures and a good framework as well as having a very clear policy.

The approach of management across the public sector organisations studied was found to be that of traditional role public administration. Staples (2010) say that in public administration the elected representatives determine what public sectors should do and the bureaucrats administers the programmes in the areas prescribed. Hood (1995) and Staples (2010) states that one of the doctrines of public administration is to maintain buffers against political and managerial discretion by means of an elaborate structure of procedural rules designed to prevent favouritism and corruption and keep arms length relationships between politicians and entrusted custodians of the public service "trusts". From the discussion above it is observed in case of the organizations studied in this research the doctrine of public administration as mentioned above has not been fully adhered by evidencing the associated problems as mentioned above. In developed countries there has been a shift of paradigms across the ages. The traditional public administration paradigm had been replaced by the new public management paradigm and most recently the new public management paradigm has

been replaced by public value paradigm. Staples (2010) gives an account of procurement approaches by the three public sector management paradigms mentioned above stating that under the public administration paradigm the focus of procurement activities is on delivering policy objectives as determined by politicians, however it assumes a relatively stable and non changing mandate for the public sector. He states that under new public management paradigm activities previously undertaken by the public sector were privatised or outsourced. Procurement was pursued via competitive tendering and frequently characterised by lowest cost procurement, sometimes compulsory competitive tendering. The risks of this procurement approach included decreased quality and continuity of service, as well as losing sight of the policy objectives sought. He further suggests that under the public value paradigm the focus of procurement is broadly on achieving government objectives and recognises the manager's role in seeking and creating value. The challenges appear to be in designing more complex contracts that require more skill on the supply side to deliver and the evaluation activities associated with delivering more complex contracts. In case of public sector in Pakistan there is a need for a paradigm shift from the traditional public sector management paradigm towards thinking more on the lines of the public value paradigm so as to achieve public value from infrastructure projects.

The environment has a major impact on procurement as discussed above and noted by many authors procurement is a system that is open and permeable which receives information and responds to the environment. During this research certain environmental factors such as finance, political, legal, and cultural factors had a profound effect on infrastructure procurement and warranted detail discussion and hence has been discussed individually in detail. Furthermore the remaining environmental factors such as economy, security and other factors are discussed in the conditions of the country section in chapters 6, 7 and in this chapter below. It was observed that conditions of the country had a profound effect on procurement implementation in both methods of procurement and across all organisations. In case of the conditions of the country, be it economical, law and order or security situation or any other the respondents felt that they are pretty much helpless to do anything and exhibited fatalism cultural attributes as mentioned by (Ngowi, 2000) and Trompenaars (1994). The conditions of the country most notably economic conditions and the prevailing law and order and security situation have direct impact on the public organisations as well as procurement and implementation of infrastructure projects.

The country's financial and economic constraints have resulted in the public organizations studied to consider other innovative methods to increase revenues and finance their projects. The financial, economic and security situation in Pakistan has increased transaction costs and increased the overall cost of doing business in Pakistan. Most notably the precarious security situation of the region and the country has resulted in increase of security risks which is another discouraging factor for investors in infrastructure projects in Pakistan. It was reported that it not only disturbed the financing but impacted adversely on project development. As a result of it the risks were increased which in turn meant more risk coverage for the organisations and dwindling interest in projects. It also made it difficult to get arrangement for financing because of the perception of high risk of the country. The present security situation in the country was considered the most important impediment to procurement and project implementation. With the exception of one project executed in the worst security risk region in the country being completed on time and within budget, contrary to the reported statements that the critical factors for failure to implementation was security situation of the country. At the economic level willingness of investors to invest in Pakistan's infrastructure was dwindling as rate of return was very low while inflation was going up and not at par with the rate of return. The foreign exchange rate was also going high day by day and it was felt that unless the government fixes the exchange rate of dollar for infrastructure projects investment would further decline. The international financial crunch was also reported to be a factor which has resulted in reduced financing in infrastructure projects in Pakistan. The political risks in Pakistan and the frequent change of governments resulted in change of policies which has caused limited predictability for continuance of policy in Pakistan. People don't have the confidence to initiate investment in infrastructure there is a need to build confidence in the private sector both domestic and international to invest in infrastructure projects in Pakistan.

8.5 How procurement practices are perceived to deliver successful project outcomes?

Success was defined and perceived as meeting all the major objectives of the project as envisaged prior to execution when the project was constructed and completed. In totality the respondents perceived that that procurement had a direct impact on successful outcomes of the project. As it was unanimously stated that the project

procurement processes and methods directly impacted the successful outcomes of the projects in the organizations investigated. It was perceived that all the criteria's, guidelines and rules etc. were designed to achieve successful project outcomes. It was felt if the process of procurement is followed in letter and spirit there would be no problems in its effective implementation. The criteria for pre-qualification and award of contracts in theory was perceived to be tailored in such a way that these are built in the process for one reason alone i.e. to achieve successful project outcomes.

The procurement systems in the organisations studied had a direct relationship and impact on performance and success of the project.

In addition procurement planning and project planning was perceived to be instrumental in achieving successful outcomes. Project planning and especially the prime governmental project document i.e. PC-1 (stands for Planning Commission template 1) if it was properly prepared in their experience than such projects usually reached successful conclusions. It was felt that for successful implementation both political and organisational will and loyalty including personal will and loyalty to the project was imperative i.e. how loyal and willing all the project stakeholders are to the project. It was reported that there was much room for improvement in the process and rules which would lead to successful implementation of projects. The due diligence of the process of procurement was also reported to help in identifying who is best suited to handle the project.

8.6 What challenges does a developing country like Pakistan face while adopting modern procurement methods and systems? How enabled is the environment to accept new and innovative forms of procurement?

As Riley and Lewis (2008) states that uncertainty results in large part from imperfect information, the institutions in a society are those that reflect the quality of the information that is available. They further state that it adopting new and different procurement processes has a direct relationship with uncertainty. They state that the greater the uncertainty, the more rigid and limiting the institutional arrangements tend to be, and in the context of construction, the more difficult it becomes to adopt a new and different procurement process that minimizes transactional and enforcement costs. They further state that “the smaller the uncertainty facing the decision maker, the more flexible the institutional arrangements, and the greater the scope for initiative. Hence,

developing countries tend to limit the scope for initiative in public sector contract letting (almost always to the lowest competitive bid) whereas more developed countries experiment with various of the newer formats that even allow negotiation (PPP, PFI, BOOT, BOLT etc)". The same can be inferred from this research in case of Pakistan the external environmental uncertainties are quite extensive and massive. Infrastructure procurement has been found in Pakistan to have forward and backward linkages to a range of external environmental issues and barriers identified during this research. It has been found and can be summarized to state that the current situation of the economy, the instability of the political scenario, the immaturity of organizations and institutions and law and order situation or security situation, legal and institutional frameworks, risks and contract management practices, the level of understanding of other procurement form all are not conducive at the moment towards effective implementation of other forms of procurement. Plus no one has the confidence in the government be it the masses or the private sector both domestic and international. There is weak rule of law and justice. Economic situation, policy, political instability, decision making abilities etc. All of these have increased the cost of doing business with public sector in Pakistan. Although it may be noted that these factors and higher uncertainty affects of these factors has had a negative impact on the public sector organizations. But on the positive side has pushed the organisations to find other innovative methods of financing and procurement. There are limited number of enablers for implementation of other forms of procurement and large number of impediments. A study by the funded by the Asian Development Bank in 2007 was targeted in Pakistan for finding private sector constraints to infrastructure investment and resulted in finding of substantial impediments but efforts for removal of these impediments have had limited success till date.

8.7 Research Contributions

Procurement research is well established in the construction industries of the developed countries. But on the other hand procurement research in case of developing countries is relatively exceptionally limited. Within the context of developing countries and especially Pakistan there is a dearth of research on procurement of projects. This research has significantly added to the existing body of knowledge in the domain of project procurement in developing countries and Pakistan particularly by investigating in real life setting the problems of procurement of infrastructure projects in

the public sector in a developing country i.e. Pakistan. This research has been able to investigate the types of procurement methods and routes used in the public sector in Pakistan. Furthermore the research has been able to identify and investigate the major issues of selecting these procurement routes and the barriers to its effective implementation. This research has also been able to effectively link the issues in procurement selection and barriers of procurement implementation with its perceived impact on successful project outcomes. This research has also been instrumental in finding how enabled the environment is in implementing other forms of procurement in Pakistan. This provides a strong case that the level of environmental uncertainty which is quite high in context of Pakistan and developing countries and which in turn made the institutional arrangement rigid for adopting other methods of procurement. For adoption and effective implementation of other forms of procurement these environmental uncertainties have to be alleviated. Not just the environmental uncertainties but the issues and barriers identified throughout this research have to be addressed to ensure successful project outcomes.

This research has been successful in establishing a road map of procurement for infrastructure projects in public sector in Pakistan. By demonstrating in a practical way with real life examples of case projects and case study organizations in Pakistan what the different types of procurement routes are for infrastructure projects, the issues of selecting particular routes or methods and the barriers to its effective implementation. The role of institutions, policy, governance, politics, culture and the conditions of the country are of paramount importance in public sector procurement in Pakistan. The public sector and construction industries of the developed countries have changed and adapted to the environment in order to survive. Change is imminent and measures for effective and positive change management are needed at all levels in public sector procurement in Pakistan. This research provides a good and solid foundation for public sector organisations and project sponsors or patrons, to think about what could be the required type of procurement method and route and the effect it can have on project outcomes in case of infrastructure in Pakistan. This research is aimed to guide the government policy makers about the array of various procurement routes and how to select an effective procurement route for a certain project. The findings of the research are of benefit to investors in infrastructure projects, contractors and consultant, the domestic and international lending institutions and agencies including other governmental and non-governmental organisations interested in infrastructure projects

in Pakistan and developing countries with issues analogous to Pakistan. This research consequently helps in assisting and in improving the procurement management practices of projects in developing countries. This study has therefore contributed towards the creation of new knowledge in this area and will be instrumental in identifying future directions for further research emanating from this research. This knowledge is also intended to be capitalised upon by other developing countries having comparable issues to Pakistan. The ultimate goal of the research is to better inform the procurement decision making-process while contributing to the existing body of knowledge.

It is imperative for any doctoral thesis to demonstrate professional and expert understanding of research methodologies while exhibiting effective and appropriate approach for the research design utilized. It can be ascertained that this research has added value by utilizing the qualitative methodologies of archival analysis and qualitative case study methodology for the purpose of obtaining necessary information and transformation of this information into valuable knowledge. This decision of methodology has been based on the rationale and objectives of the study, the required depth of the investigation and dominance of “how”, “what” and “why” questions needed to investigate the complex practice of public procurement. These has generated a body of knowledge which other qualitative researchers in developing countries or researchers interested in developing countries can refer to and capitalize upon. Researchers can gain benefit from this study by explicating the research approach and how it was undertaken in this research.

Lastly, a doctoral thesis is expected to generate work of a publishable standard. This thesis work has so far resulted in publication of 3 conference papers and one journal paper which is under peer review.

8.8 Recommendations

The following recommendations can be suggested as an outcome of undertaking this research:

- 1) Public sector organisations in Pakistan should adopt effective risk management techniques and frameworks as these organisations did not have a proper and systematic risk management framework or approach.
- 2) Rules, regulations and procedures are perceived as impediment in procurement of infrastructure projects in public sector in Pakistan. Due to a plethora of legal formalities and requirements there a lot of loop holes in the system and which have been regularly exploited. Legal and regulatory constraints need to be addressed and stronger enforcement without impeding the process of procurement is required. In public sector in Pakistan innovation is needed to improve the regulatory and legal frameworks in place for infrastructure procurement, the best recommended approach is suggested by Gann Wang and Hawkins (1998) that is transforming the regulatory and legal frameworks and using them for improving performance and inducing innovation.
- 3) At policy level stability and clarity in policy frameworks is required. The unstable political environment of the country, instability in policies, use of political pressure and influence are an impediment to the procurement and successful implementation of projects. Measures are needed to reduce the impact of negative political factors and increase the impact of positive political factors such as political will.
- 4) Value for money (VFM) concept is neither clearly defined nor understood in public sector in Pakistan. There are barriers to the concept of VFM in public sector organisations studied in Pakistan and the barriers are weak governing bodies, politics, tradition, and lack of education and training programmes which are need to be overcome in order to achieve VFM
- 5) Efforts are needed to formulate procurement approaches which enable and facilitate the integration of the construction process in the context of the national, political and public sector organisational culture of Pakistan.
- 6) Regarding governance and management in public sector in Pakistan there is a need for a paradigm shift from the traditional public sector management paradigm towards thinking more on the lines of the public value paradigm so as to achieve public value from infrastructure projects. The project approval system in Pakistan needs revamping as it is over centralised and is on a case to case and project to project basis.
- 7) Steps are needed to accelerate and strengthen both the product and process innovation in infrastructure procurement in public sector in Pakistan.

- 8) There is a need to reduce the higher uncertainty of environmental affects as there are limited number of enablers for implementation of other forms of procurement and large number of impediments which need to be reversed.
- 9) The concept of partnering, alliances and principles of supply chain management need to be explored, understood and adopted within the context of Pakistan in public sector infrastructure procurement.

8.9 Limitations

In the course of undertaking a qualitative research investigation of this magnitude the researcher learnt immensely from the process of actually doing the research. The nature of the research undertaken was exploratory. One of the most challenging elements and demanding persistence was in identifying appropriate respondents and gaining their consent to participating in this research. 68 potential qualified and experienced respondents were identified and 34 showed keen interest in participating while only 24 actually participated in the research. Neither denial nor consent to participate came easy and the process took many months during which the researcher had to be persistent and diplomatic in his approach. One major reason observed was that participants were afraid to comment on procurement related issues.

As mentioned earlier in chapter 1 the infrastructure sector in public domain in Pakistan is sub-divided into transport, water and power. Within the transport sub-sector and subsequently ports and shipping sub-division the researcher had identified through archival analysis the first BOT project in Pakistan along with a few good success stories regarding non-traditional procurement. However when the concerned organisation and appropriate professionals were contacted they eventually declined to participate even after repeated researcher as well referral requests. This aspect has limited the investigations complete coverage of the infrastructure sector in Pakistan.

Over the course of this research twenty four interviews were undertaken, which included more than 350,000 words being brought together for transcription and analysis. This burden was heavier than anticipated at the onset of this research. After collecting the data the researcher felt a strong degree of attachment to the data and felt investing ample thought, time and energy in presenting it well. In particular, the compiling of results chapters involved many painstaking months of pouring over the

transcripts and re-listening to interview recordings, to distil and decipher the responses from respondents as if passing all of it through a sieve into the summaries contained within this thesis. The literature and experts on qualitative research suggest that qualitative data is rich, messy, and complex but it is one thing to read the texts about qualitative research and another thing to actually experience it. One observation emanating from undertaking this research was that there is abundance of literature of how a qualitative case study design should be and how to collect data and conduct interviews but there is dearth of literature which gives in-depth view on how to actually analyse qualitative data, transform the data to knowledge and present the finding appropriately. For this purpose the researcher not only delved into literature but also asked other professional, academics and colleagues involved in qualitative research and utilized their professional advice and feedback. One limitation that may be termed as a limitation is that the researcher has not used computer aided qualitative research tools and software such as Nvivo etc. nor has used professional transcription services. The reason for not using such tools and services was to give the researcher first hand experience of analysing and comprehending qualitative data by fully immersing the researcher in the data and develop an understanding and appreciation for qualitative research.

One of the limitations observed in the research design adopted for this research was that the researcher had to do a trade-off between the number of cases examined and the depth of research in each case, as each case includes a number of interviewees. It can be suggested that the researcher should have focused on fewer jurisdictions but however at the onset of data collection one is not entirely certain in advance as to how many participants one is going to get. The multi-jurisdictional nature of the research makes the research a national undertaking which could not have been possible if not all the four provincial governments and federal government had not been included.

To reduce the bias of interviewing just the public sector professionals the researcher has endeavored to interview a balanced mixed of professionals from both public and private sectors. But the fact that most of interviewees featured highly experienced professionals from public sector also raises the possibility there might have been some interviewee bias as a result of the organisations having a role in providing contact information for private sector participants which then had to be contacted by the researcher.

The learning from this whole process of research has led the researcher to suggest that the most paramount learning from the whole process was about interviewing. Interviewing has a considerable degree of complexity and for being a good interviewer there is a lot of skill required. During the course of the research it was observed that the quality of the interviewing skill of the interviewer improved gradually as the interviewer gained more experience.

Finally the limitations associated with this research is based on and limited to a single country that is Pakistan and the focus is on public sector infrastructure projects only.

8.10 Recommendations for Further Research

The pursuit of this research has led to opening of many avenues for further research which is presented as follows:

- 1) In Pakistan the area of infrastructure procurement has not gathered academic attention and has been under-explored given the large fiscal investment by Government of Pakistan. This forms the basis for a research initiative at academic level to investigate with a much broader range of organisations about project procurement practices in Pakistan. Through a quantitative study in order to devise strategies for effective procurement and project implementation.
- 2) A longitudinal study investigating and comparing costs for traditionally procured projects and non-traditionally procured projects might be also worth further investigating.
- 3) Further research is required that might more rigorously explore the policy environment on how procurement is supposed to be and how currently it is actually being procured in Pakistan.
- 4) Further research is warranted on devising a strategic framework for application of formal risk management frameworks and techniques for Public sector organisations in Pakistan.
- 5) Much deeper research to investigate how the legal and regulatory impediments can be transformed so as to be used for improving performance and inducing innovation.

- 6) At political level research is warranted in investigating political dimensions so as to help in devising measures needed for reduction of the negative impact of political factors while increasing the positive impact.
- 7) A study is needed to investigate the barriers for achieving value for money (VFM) in context of public sector procurement in Pakistan and devising a strategy to mitigate these barriers.
- 8) More research is required to understand the complex dimensions of Pakistani culture and its impact of the construction industry in Pakistan.
- 9) Further investigation is needed regarding governance and management in public sector in Pakistan so as to identify areas of improvement and strategies for improvement.
- 10) Lastly an in-depth investigation is required for exploring the applicability and implementation of the concept of partnering, alliances and principles of supply chain management in the construction industry and public sector in Pakistan.

8.11 Summary

This chapter has provided a conclusion to the research by answering the individual research questions identified in Chapter 1 by summarising the research findings. This chapter has also discussed the contribution of this research both from academic and practice point of view. The chapter states that this thesis has enhanced the body of knowledge in the area of project procurement in developing countries and presents the contributions made by this thesis including the limitations of this research. Lastly the chapter has presented recommendations that have arisen from this thesis and research and also provided the directions for future research.

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Appendix A

Plain Language Statement

Dear

Subject: Research on Procurement Practices of Projects in Pakistan

My name is Muhammad Ali Noor and I am undertaking a Doctor of Philosophy degree at RMIT University. The title of my research is “**Investigating the role of procurement practices in effective implementation of infrastructure projects in a developing country: A Case of Pakistan.**”

The project aims to investigate and explore the infrastructure project procurement practices in Pakistan and to ascertain whether they inhibit or aid project success. This research will help in:

- Identifying the different types of procurement practices in Pakistan
- Investigating the major issues that affect the procurement practice in Pakistan
- Investigating the perception about different procurement practices to deliver successful project outcomes.
- Identifying the barriers to effective implementation of procurement systems
- Identifying the challenges Pakistan face and conduciveness of the environment to adopting modern procurement methods and systems

I have also provided a short summary of the research project and its objectives at the end of this letter for your kind perusal.

In order to conduct the research I need to examine the procurement practices of a variety of organisations and projects. In total I would expect to interview about 5 individuals from the [organisation's name] management team. I expect each interview to last between 1 and 1.5 hours.

All information that you provide is strictly confidential. Your answers and/or comments will not be associated with your name. The data provided is for the purpose of research only. You are free to withdraw from the research at any time and to withdraw any unprocessed data previously supplied. Only participants of 18 years of age or older can participate in this study.

I hope you are able to participate in this project. I look forward to hearing your response.

Thank you for your assistance!

If you have any questions please contact the undersigned or my supervisor:

Dr. Tayyab Maqsood
Senior Lecturer
RMIT University - School of Property Construction and Project
Management
e-mail: tayyab.maqsood@rmit.edu.au

Regards,

Muhammad Ali Noor

PhD Candidate - RMIT University

e-mail: m.noor@student.rmit.edu.au

Any complaints about your participation in this project may be directed to the Executive Officer, RMIT Human Research Ethics Committee, Research & Innovation, RMIT, GPO Box 2476V, Melbourne, 3001. Details of the complaints procedure: <http://www.rmit.edu.au/governance/complaints/research>

Research Project Overview

The aim of this PhD research project is to investigate and explore the project procurement practices in Pakistan and to ascertain whether they inhibit or aid project success.

The objective of this research is to provide a detailed explanation of the types of project procurement practices in Pakistan, the differences in these practices, and use this information to explain whether they impede or facilitate in successful delivery of projects.

The study will provide a good and solid foundation for project managers and also project sponsors or patrons, to think about what could be the required type of procurement method and route and the effect it can have on project performance. A further key implication of the research would be why projects might fail owing to procurement related issues in less developed countries like Pakistan. This research study will guide the government policy makers about the array of various procurement routes and how to select an effective procurement route for a certain project. The findings from the research will also benefit the aid donor agencies and non-governmental organisations in developing countries with issues analogous to Pakistan. Consequently assisting in improving their procurement management practices of projects in less developed countries. The ultimate goal of the proposed research is to better inform the decision making-process while contributing to the existing body of knowledge.

Appendix B

An Example of In-depth interview

A. Individual characteristics:

- Job title;
- Age;
- Education/degrees;
- Time with the company;
- Experience/other functions (next to or before this);
- In how many/which (development) projects are you involved;
- Describe your tasks, activities, responsibilities and authorisation in general;

B. Sample project:

1. What was your own role in the project?
2. What was the method of procurement in the project?
 - Why did you choose this method? (client objectives, nature of client, project characteristics, performance requirements)
 - What are the advantages and disadvantages of this method? Pros and cons?
 - How did you implement it? How was the process? (value for money, ethics, accountability, transparency, competition)
 - How was the contract management process? How did you assign risks?
 - What were/are the problems in the procurement process/method? What do you think should be done to address these problems and how?
 - What was the culture?
3. What are/ were the things that went (very) well and/or (very) wrong in this project?
4. How do you think the procurement process and method impacted the successful outcomes of the project?

C. Inter and Intra Organisational Contextual Elements (Parties and Alignment/Interaction)

1. What are the different types of procurement systems in your organisation (pros and cons)?
 - How do you choose them?

- How do you implement them? Whats the process? Can you give examples?
 - What's the case when the project is financed by foreign aid, donors or private parties?
 - What are Issues and barriers to their effective implementations?
 - What are the advantages and disadvantages of procurement process in your organisation in terms of managing and organising the project(s)?
2. How is the contract management practice in you organisation? (pros and cons)
 3. How do you think that the procurement system (s) in your organisation impact performance and success of the project (s)? How and why?
 - How and why do you think improving procurement practice would achieve successful project outcomes?
 4. What is your understanding of other forms of procurement?
 - Can they be effectively implemented by your organisation?
 - How enabled is your organisation to adapt to new changes in procurement?

D. Extra-organisational factors and its effect

1. What extra organisational factors do you think affect the procurement process and practice in your organisation? What are the advantages and disadvantages of these factors? How do they affect the practice? What is their severity?
2. How should these problems be addressed?

E. In General Context of Pakistan

1. What are new procurement routes you are looking to adopt? What do you think that need to change in the practice of procurement in Pakistan? How and Why?
2. How enabled is the environment in context of Pakistan to adapt to new changes in procurement?